April 24, 2020

Mr. Gerald Pratt
New York State Department of Environmental Conservation
Division of Environmental Remediation
Section C Bureau C Geologist
625 Broadway, 11th Floor
Albany, New York 12233

Re: Baseline Groundwater Sampling Analysis
One Commerce Park
115 Wall Street
Valhalla, New York
NYSDEC Site # 360054

Dear Mr. Pratt:

Apex Companies, LLC (Apex) is pleased to submit this Groundwater Sampling Summary Report for the above referenced project site (herein referred at the Subject Property). A Site Location Map is included as **Figure 1**. The groundwater sampling event was performed as the baseline groundwater sampling event for the remedial activities in progress at the Subject Property, in accordance with the approved Injection Work Plan (IWP), dated December 10, 2019 (revised). Based on the IWP, a total of fifteen (15) groundwater wells were sampled utilizing low-flow techniques. The groundwater purge logs are provided as **Attachment A**. Sample Locations are provided on **Figure 2**.

The groundwater samples were analyzed for volatile organic compounds (VOCs) with Freon-113, total organic carbon (TOC), chlorides, and the following metals: iron, manganese and chromium. Additionally, based on the request of the NYSDEC, in a letter dated March 30, 2018, groundwater sampling analysis included 1,4-dioxane (by a modified EPA Method 8270) and per- and poly-fluoroalkyl substances (PFAS, by EPA Method 537), termed 'emerging contaminants' for select wells. This analysis was performed in accordance with the guidance documents provided by the New York State Department of Environmental Conservation (NYSDEC). Since there is no known source of PFAS currently or historically at the Subject Property, these four (4) wells will provide sufficient, representative screening level data and will serve to satisfy the NYSDEC requirement for dissolved phase groundwater sample collection and analysis for 1,4-dioxane and PFAS (i.e., "emerging contaminants") for this project.

The samples were submitted to Alpha Analytical, of Westborough, Massachusetts, a New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP)-certified laboratory. A NYSDEC Analytical Services Protocols (ASP) laboratory provided a Category B laboratory data deliverable format report.

A summary of the groundwater sampling results for VOCs are provided as **Table 1**; results for TOC, chlorides, iron, manganese and chromium are provided as **Table 2**; and, results for 1,4-dioxane and PFAS are provided as **Table 3**. The analytical laboratory reports are provided as **Attachment B** and the Data Usability Summary Reports are provided as **Attachment C** (for VOCs, TOC, chlorides and select metals) and **Attachment D** (for emerging contaminants analysis).

The results of the baseline groundwater sampling event for VOCs, TOC, chlorides, iron, manganese and chromium will be utilized to compare to the results of the post-injection monitoring with the intent to document the creation of subsurface conditions that will result in the continued decrease of the chemicals of concern (COC), as documented in the IM summary Report and the IWP.

Sincerely,
Apex Companies, LLC

Joseph P. Gavin, P.G.
Project Manager

Daniel J. Smith, P.E.
Vice President

Cc: Mr. Ronald Roth, Diamond Properties
Jim Diamond, Diamond Properties

Attachments

Tables

Table 1 - Summary of Volatile Organics Compounds in Groundwater

VOCs	NY - GA Ambient Water Standards and Guidance Values (ug/l)	MW-1S (5.5-15.5') Baseline (12/16/19)		MW-1I (30-35') Baseline (12/16/19)		MW-1D (50-55') Baseline (12/26/19)		MW-2S (5-15') Baseline (12/26/19)		MW-2I (30-35') Baseline (12/26/19)		MW-2D (50-55') Baseline (12/26/19)		MW-3S (5-15') Baseline (12/27/19)		MW-3I (30-35') Baseline (12/16/19)		MW-3D (45-50') Baseline (12/27/19)		MW-4S (5-15') Baseline (12/16/19)		MW-4I (30-35') Baseline (12/27/19)		MW-7S (5.5'-15.5') Baseline (12/26/19)		MW-7I (25'-35') Baseline (12/26/19)		P-1 (5-15') Baseline (12/27/19)		P-2 (5-15') Baseline (12/27/19)	
Methylene chloride	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,1-Dichloroethane	5.0	2.3	J	3.6	J	1.1	J	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Chloroform	7.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Carbon tetrachloride	5.0	0.13	U	0.54	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,2-Dichloropropane	1.0	0.14	U	0.55	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
Dibromochloromethane	50*	0.15	U	0.6	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
1,1,2-Trichloroethane	1.0	0.5	U	2.0	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethene	5.0	0.7		0.72	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
Chlorobenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Trichlorofluoromethane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2-Dichloroethane	0.6	0.13	U	0.53	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U	0.13	U
1,1,1-Trichloroethane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Bromodichloromethane	50*	0.19	U	0.77	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U	0.19	U
trans-1,3-Dichloropropene	0.4	0.16	U	0.66	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U
cis-1,3-Dichloropropene	0.4	0.14	UJ	0.58	UJ	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	UJ	0.14	U	0.14	UJ	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
1,3-Dichloropropene, Total	0.4	0.14	U	0.58	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U	0.14	U
1,1-Dichloropropene	0.4	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Bromoform	50*	0.65	U	2.6	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U
1,1,2,2-Tetrachloroethane	5.0	0.17	U	0.67	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
Benzene	1.0	**2.0**		**49**		**2.4**		0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U	0.16	U
Toluene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Ethylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Chloromethane	5.0	0.7	UJ	2.8	UJ	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	UJ	0.7	U	0.7	UJ	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Bromomethane	5.0	0.7	UJ	2.8	UJ	0.7	UJ	0.7	UJ	0.7	UJ	0.7	UJ	0.7	U	0.7	UJ	0.7	U	0.7	UJ	0.7	U	0.7	UJ	0.7	UJ	0.7	U	0.7	U
Vinyl chloride	2.0	1.8	J+	**60**	J+	2.1	U	0.07	U	0.07	U	0.07	U	0.07	U	1.1	J+	0.07	U	0.88	J+	1.2		0.08	J	0.07	U	0.07	U	0.07	U
Chloroethane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,1-Dichloroethene	5.0	0.17	U	0.68	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U	0.17	U
trans-1,2-Dichloroethene	5.0	1.5	J	4.1	J	0.71	J	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Trichloroethene	5.0	**96**		**26**		1.3		0.18	U	0.18	U	**5.8**		0.18	U	0.49	J	4.4		0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U
1,2-Dichlorobenzene	3.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,3-Dichlorobenzene	3.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,4-Dichlorobenzene	3.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Methyl Tert Butyl Ether	10*	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
m,p-Xylene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
o-Xylene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Xylene (total)	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
cis-1,2-Dichloroethene	5.0	**49**		**370**		6.2		0.7	U	0.7	U	0.74	J	0.7	U	2.4	J	0.7	U	1.2	J	3.0		0.7	U	0.7	U	0.7	U	0.7	U
1,2-Dichloroethene, Total	5.0	51	J	370	J	6.9	J	0.7	U	0.7	U	0.74	J	0.7	U	2.4	J	0.7	U	1.2	J	3.0		0.7	U	0.7	U	0.7	U	0.7	U
Dibromomethane	5.0	1.0	U	4.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
1,2,3-Trichlorobenzene	0.04	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Acrylonitrile	5.0	1.5	U	6.0	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	1.5	U
Styrene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Dichlorodifluoromethane	5.0	**5.1**		4.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Acetone	50*	1.7	J	38		1.5	U	1.5	U	1.5	U	1.5	U	**150**		1.5	U	1.5	U	1.5	U	1.5	U	1.5	U	2.8	J	1.5	U	1.5	U
Carbon disulfide	60	1.0	U	4.0	U	1.0	U	1.0	U	1	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	2.2	J	1.0	U	1.0	U
2-Butanone (MEK)	50*	1.9	U	7.8	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U	1.9	U
Vinyl acetate	-	1.0	U	4.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
4-Methyl-2-pentanone(MIBK)	-	1.0	U	4.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
2-Hexanone	50	1.0	U	4.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U
Bromochloromethane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
2,2-Dichloropropane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2-Dibromoethane	0.0006	0.65	U	2.6	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U	0.65	U
1,3-Dichloropropane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,1,1,2-Tetrachloroethane	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Bromobenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
n-Butylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
sec-Butylbenzene	5.0	0.92	J	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
tert-Butylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
o-Chlorotoluene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
p-Chlorotoluene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2-Dibromo-3-chloropropane	0.04	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Hexachlorobutadiene	0.5	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Isopropylbenzene	5	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
p-Isopropyltoluene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
Naphthalene	10	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
n-Propylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2,3-Trichlorobenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2,4-Trichlorobenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,3,5-Trimethylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2,4-Trimethylbenzene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,4-Dioxane	-	61	U	240	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U	61	U
p-Diethylbenzene	-	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
p-Ethyltoluene	-	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
1,2,4,5-Tetramethylbenzene	5.0	0.54	U	2.2	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
Ethyl Ether	-	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
trans-1,4-Dichloro-2-butene	5.0	0.7	U	2.8	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U

Notes

VOCs - Volatile Organic Compunds

* - Represents a Class GA Guidance Value, all other values are Glass GA Standards

ug/l - micrgrams per liter

Yellow Highlight and Bold - Concentration exceeds GA Standards or GA Guidance Value

-' - Regulatory Guidance Value is not available.

J - Approximated Value

U - Value reported under the Method Detection Limit (MDL)

J+ - The analyte result is an estimated value and may be biased high.

Table 2 - Summary of Select Metals and General Chemistry in Groundwater

Metals	NY - GA Ambient Water Standards and Guidance Values (ug/l)	MW-1S (5.5-15.5') Baseline (12/16/19)		MW-1I (30-35') Baseline (12/16/19)		MW-1D (50-55') Baseline (12/26/19)		MW-2S (5-15') Baseline (12/26/19)		MW-2I (30-35') Baseline (12/26/19)		MW-2D (50-55') Baseline (12/26/19)		MW-3S (5-15') Baseline (12/27/19)	
Chromium, Total	50	3.0	J	2.0	U	6.0	J	27		2.0	U	4.0	J	8.0	J
Iron, Total	300	**26900**		**5280**		**10900**		**34800**		**3720**		**13500**		**172000**	
Manganese, Total	300	**11000**		**2050**		**3190**		**1300**		44		71		**12600**	

Metals	NY - GA Ambient Water Standards and Guidance	MW-3I (30-35') Baseline		MW-3D (45-50') Baseline		MW-4S (5-15') Baseline		MW-4I (30-35') Baseline		MW-7S (5.5'-15.5') Baseline		MW-7I (25'-35') Baseline		P-1 (5-15') Baseline		P-2 (5-15') Baseline	
Chromium, Total	50	2.0	U	3.0	J	2.0	UJ	22		28		7.0	J	129		2.0	J
Iron, Total	300	**10400**		**4100**		**3930**		**19500**		**50000**		**3670**		**134000**		**62500**	
Manganese, Total	300	**8950**		135		**650**	J	**1310**		**1960**		205		**1700**		**5150**	

General Chemistry	NY - GA Ambient Water Standards and Guidance	MW-1S (5.5-15.5') Baseline		MW-1I (30-35') Baseline		MW-1D (50-55') Baseline		MW-2S (5-15') Baseline		MW-2I (30-35') Baseline		MW-2D (50-55') Baseline		MW-3S (5-15') Baseline	
Chloride	250000	130000		79000		35000		83000		71000		79000		**1700000**	
Total Organic Carbon	-	20000		19000		2300		5800		3000		1900		18000	J

General Chemistry	NY - GA Ambient Water Standards and Guidance	MW-3I (30-35') Baseline		MW-3D (45-50') Baseline		MW-4S (5-15') Baseline		MW-4I (30-35') Baseline		MW-7S (5.5'-15.5') Baseline		MW-7I (25'-35') Baseline		P-1 (5-15') Baseline		P-2 (5-15') Baseline	
Chloride	250000	**850000**		100000		64000		68000		**610000**		**310000**		71000		240000	
Total Organic Carbon	-	2400	J+	1100	J	4700		6800		3300	J	10000		9800		2900	J

Notes

ug/l - micrgrams per liter

Yellow Highlight and Bold - Concentration exceeds GA Standards or GA Guidance Value

-' - Regulatory Guidance Value is not available.

J - Approximated Value

U - Value reported under the Method Detection Limit (MDL)

J+ - The analyte result is an estimated value and may be biased high.

Table 3 - Groundwater Analytical Results for
Per- and Polyfluoroalkyl Substances and 1,4-dioxane

Emerging Contaminats	NY - GA Ambient Water Standards and Guidance Values (ng/l)	MW-1S (5.5-15.5')		MW-1I (30-35')		MW-3I (30-35')		MW-4S (5-15')	
		Baseline (12/16/19)		Baseline (12/16/19)		Baseline (12/16/19)		Baseline (12/16/19)	
1,4-dioxane	-	602		697		171		214	
Perfluorobutanoic Acid (PFBA)	-	15.9		16.9		23.8		6.36	
Perfluoropentanoic Acid (PFPeA)	-	11.7		11.4		6.3	J	5.2	
Perfluorobutanesulfonic Acid (PFBS)	-	4.25		2.88		3.18	J	1.58	J
Perfluorohexanoic Acid (PFHxA)	-	8.75		7.65		5.06	J+	3.58	J+
Perfluoroheptanoic Acid (PFHpA)	-	5.71		4.4		2.68	J	2.15	
Perfluorohexanesulfonic Acid (PFHxS)	-	4.6		1.22	J	1.88	U	0.851	J
Perfluorooctanoic Acid (PFOA)	-	16.3		8.45		5.6	J	4.27	
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	-	1.42	U	1.24	U	6.66	U	1.18	U
Perfluoroheptanesulfonic Acid (PFHpS)	-	0.732	U	0.642	U	3.44	U	0.61	U
Perfluorononanoic Acid (PFNA)	-	1.79	J	0.332	J	1.56	U	0.582	J
Perfluorooctanesulfonic Acid (PFOS)	-	8.03		1.58	J	2.52	U	2.72	
Perfluorodecanoic Acid (PFDA)	-	0.485	J	0.284	U	1.52	U	0.518	J
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	-	1.29	U	1.13	U	6.06	U	1.07	U
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	-	0.689	U	0.604	U	5.3	J+	0.574	U
Perfluoroundecanoic Acid (PFUnA)	-	0.276	U	0.242	U	1.3	U	0.23	U
Perfluorodecanesulfonic Acid (PFDS)	-	1.04	U	0.914	U	4.9	U	0.869	U
Perfluorooctanesulfonamide (FOSA)	-	0.617	U	0.541	U	2.9	U	0.514	U
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	-	0.962	J+	0.75	U	4.98	J+	0.713	U
Perfluorododecanoic Acid (PFDoA)	-	0.396	U	0.347	U	1.86	U	0.33	U
Perfluorotridecanoic Acid (PFTrDA)	-	0.348	U	0.305	U	1.64	U	0.29	U
Perfluorotetradecanoic Acid (PFTA)	-	0.264	U	0.231	U	1.24	U	0.22	U
PFOA/PFOS (Total)	-	24.3		10	J	5.6	J	6.99	

Notes

PFAS - Per- and Polyfluoroalkyl Substances

ng/l - nanogram per liter

Yellow Highlight and Bold - Concentration exceeds GA Standards or GA Guidance Value

-' - Regulatory Guidance Value is not available.

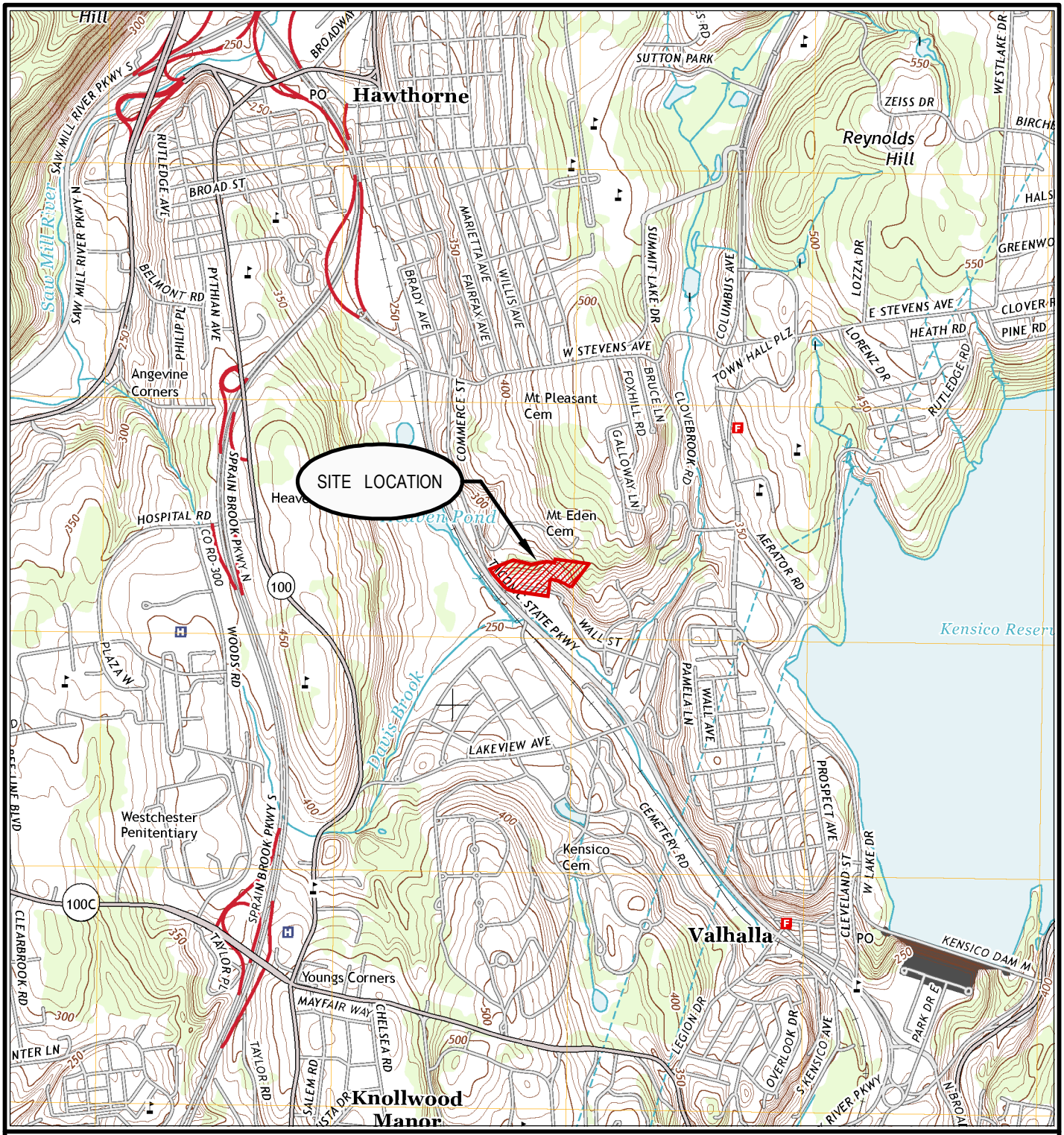
J - Approximated Value

U - Value reported under the Method Detection Limit (MDL)

Well Screen Interval in Parenthesis

J+ - The analyte result is an estimated value and may be biased high.

Figures



(SOURCE OF MAP IS USGS 7.5 MINUTE QUADRANGLE MAP, WHITE PLAINS (2012), NEW YORK)

CHECK BY	IG
DRAWN BY	OS
DATE	8-12-14
SCALE	AS SHOWN
CAD NO.	85225.02A
PRJ NO.	85225.002

SITE LOCATION MAP

115 – 117 WALL STREET
VALHALLA, NEW YORK

APEX

FIGURE

1

PARCEL 1
10.001 Ac.

TWO STORY BRICK BUILDING

FRAME SHED

BLOCK SHED

ASPH.

BLOCK RET. WALL

LOADING DOCK

BASEMENT SUMP

SS-1-2014

ENTRANCE

ASPHALT CURB

P-2 (5'-15')

NO PARK.

LOADING DOCK

I-18

I-1

I-5

I-19

I-7

LOADING DOCK

I-6

MW-1S (5.5'-15.5')

I-2

I-8

CONCRETE

I-12

I-17

I-3

I-4

I-11

I-9

I-16

I-14

I-15

MW-11 (30'-35')

I-13

I-10

MW-1D (50'-55')

103.55'

Δ=29°10'49"
R=616.00'
L=313.72'

BUILDING HEIGHT 27.1'

WOOD STEPS

ASPHALT STEPS

GATE

SPEED BUMP

SWALE

WATER LINE

FP

ASPHALT CURB

NO PARK.

SPEED BUMP

ASPHALT PARKING AREA

MW-3S (5'-15')

MW-3I (30'-35')

ASPHALT CURB

ASPHALT PARKING AREA

MW-3D (45'-50')

MW-4S

MW-4I

BARRIER WALL

241.00'

71.38'

CONCRETE HEADWALL

ELECTRIC LINE

SPEED BUMP

P-1 (5'-15')

Δ=39°53'05"
R=200.00'
L=139.28'

10.4 TO PROP.LINE

OW

STONE HEADWALLS

GAS LINE

SPEED BUMP

ASPHALT PARKING AREA

ASPHALT CURB

200.16'

MW-7S (5'-15')

MW-7I (30'-35')

MW-2S (5'-15')

SWALE

MW-2I (30'-35')

MW-2D (50'-55')

CONCRETE

S09°18'00"W

COMMERCE STREET

OW

N80°42'00"W

GAS LINE

495.19'

STONE HEADWALL

OW

WALL STREET
(UNDEVELOPED ROAD)

OW

OW

MW-5S

MW-6I

MW-6S

N/F
FARRAND REALTY CORP.
PARCEL 2
FILED MAP NO. 24303

MW-1

P-15

MW-2

P-16

LEGEND

- INTERMEDIATE INJECTION WELLS– SCREENED 25–35 BGS
- SHALLOW INJECTION WELLS– SCREENED 5–15' BGS
- PROPOSED INJECTION WELLS – VARYING DEPTH AND SCREEN
- MW-1 MONITORING WELL (3) DEPTHS – S/I/D
- (5'-15') SCREENED ZONE OF MONITORING WELL
- P-16+ OFF-SITE EXISTING MONITORING WELL / PIEZOMETER
- -o- UTILITY POLE
- -OW- OVERHEAD WIRE
- PROPERTY LINE
- S BASEMENT SUMP SAMPLING LOCATION
- A. SUB-SLAB VAPOR SAMPLING LOCATION

SOURCE: DP ALTA SURVEY CAD VERSION
DATE: MAY 22, 2008
FARRANDS CONTROL SITE RI REPORT
TARGETED TOTAL VOC CONCENTRATION...
DATE: MARCH 2002
DVIRKA AND BARTILUCCI

SCALE IN FEET
0 30 60 120

CHECK BY	JG
DRAWN BY	EM/OS/WG
DATE	2-6-19
SCALE	AS SHOWN
CAD NO.	VALHALLA1501c
PRJ NO.	VALHALLA1501

MONITORING AND INJECTION WELL LOCATIONS

115 WALL STREET
VALHALLA, NEW YORK

APEX

FIGURE
2

Attachments

APEX

Page ___ of ___

GROUNDWATER SAMPLING FIELD DATA SHEET

CLIENT: Valhalla

PROJECT #: Valhalla 1501

DATE: 12/16/19

WELL ID: MW-[redacted]1S

ADDRESS: 115 Wall Street

SAMPLER/S: JQ / DK

CASING DIAMATER (inches): (2) 3 4

GALLONS/LINEAR FOOT: (0.17) 0.38 0.66

3x Well Vol: 14.61

5x Well Vol: 24.35

DTW: 10.05 DTB: 14.92 PRODUCT PRESENT: No PRODUCT THICKNESS: —

SAMPLING/PURGING EQUIPMENT: Peristaltic Pump, Horiba

Time (24 Hr)	Volume (gal)	pH (units)	Conductivity (ms/cm)	Temperature (°F/(C))	D.O. (ppm)	ORP	Turbidity (NTU)	Color (visual)
13:50	0.3	5.92	1.53	12.7	0.62	24	62.3	clear
13:55	0.5	5.84	1.62	13.4	0	14	66.1	clear
14:00	0.7	5.83	1.62	13.6	0	12	60.5	clear
14:05	0.9	5.82	1.63	13.6	0	11	55.1	clear
14:10	1.1	5.82	1.64	13.5	0	12	55.1	clear
#								
14:10	began	sampling						
		Took	Dup	here	at	14:20		

REMARKS/NOTES: _____

APEX

Page ___ of ___

GROUNDWATER SAMPLING FIELD DATA SHEET

CLIENT: Valhalla

PROJECT #: Valhalla 1501

DATE: 12/16/19

WELL ID: 1I

ADDRESS: 115 wall street

SAMPLER/S: John Quinn

CASING DIAMATER (inches): 2 3 4

GALLONS/LINEAR FOOT: 0.17 0.38 0.66

3x Well Vol: 12.6 Gallons

5x Well Vol: 21.1 Gallons

DTW: 10.55 DTB: 35.35 PRODUCT PRESENT: No PRODUCT THICKNESS: —

SAMPLING/PURGING EQUIPMENT: Peristaltic Pump, Horiba

Time (24 Hr)	Volume (gal)	pH (units)	Conductivity (ms/cm)	Temperature (°F/C)	D.O. (ppm)	ORP	Turbidity (NTU)	Color (visual)
14:42	0.2	11.22	18.7	13.27	0.15	-324	41.5	clear
14:47	0.4	11.31	1.66	13.39	0	-318	43.9	clear
14:52	0.6	11.35	1.66	13.37	0	-313	44.3	clear
14:57	0.8	11.32	1.66	13.38	0	-305	37.2	clear
15:02	1.0	11.34	1.66	13.34	0	-297	33.2	clear

REMARKS/NOTES: _____

APEX

GROUNDWATER SAMPLING FIELD DATA SHEET

CLIENT: Valhalla
PROJECT #: Valhalla 1501
DATE: 12/16/19

CASING DIAMATER (inches): (2) 3 4
GALLONS/LINEAR FOOT: (0.17) 0.38 0.66

WELL ID: MW-3I
ADDRESS: 115 Wall Street
SAMPLER/S: DK/JQ
3x Well Vol: 13.3 Gallons
5x Well Vol: 22.1 Gallons

DTW: 8.37' DTB: 34.90' PRODUCT PRESENT: No PRODUCT THICKNESS: —

SAMPLING/PURGING EQUIPMENT: Peri Pump, Horiba

Time (24 Hr)	Volume (gal)	pH (units)	Conductivity (ms/cm)	Temperature (°F/°C)	D.O. (ppm)	ORP	Turbidity (NTU)	Color (visual)
1046	0.7	6.25	2.77	12.57	0.91	-53	342	Clear
1051	1	6.33	2.74	13.22	0.09	-66	433	Brown
1056	1.3	6.36	2.76	13.33	0.0	-71	407	Light Brown
1101	1.7	6.37	2.78	13.41	0.0	-73	373	↓
1106	2.0	6.38	2.81	13.42	0.0	-75	315	Clear
1111	well	ran	dry	after ~2.5	gallons			
		waiting for	recharge and	then				
		Sampling						
11:30	Began	Sampling						

REMARKS/NOTES:

APEX

Page ___ of ___

GROUNDWATER SAMPLING FIELD DATA SHEET

CLIENT: Valhalla

PROJECT #: valhalla 1501

DATE: 12/16/19

WELL ID: 45

ADDRESS: 115 Wall Street

SAMPLER/S: JQ/DK

CASING DIAMATER (inches): (2) 3 4

GALLONS/LINEAR FOOT: (0.17) 0.38 0.66

3x Well Vol: 1.31

5x Well Vol: 2.18

DTW: 7.19 DTB: 14.90 PRODUCT PRESENT: No PRODUCT THICKNESS: —

SAMPLING/PURGING EQUIPMENT: Peristaltic Pump, Horiba

Time (24 Hr)	Volume (gal)	pH (units)	Conductivity (ms/cm)	Temperature (°F/(C))	D.O. (ppm)	ORP	Turbidity (NTU)	Color (visual)
12:17	0.3	6.54	0.544	9.56	4.04	-7	88.1	clear
12:24	0.4	6.46	0.479	9.69	3.56	8	51.1	clear
12:29	0.5	6.45	0.471	9.78	2.76	17	34.3	clear
12:34	0.7	6.42	0.470	9.96	2.77	21	25.9	clear
12:40	0.9	6.41	0.471	9.97	2.75	22	24.4	clear
12:45	1.2	6.40	0.470	9.96	2.73	22	24.1	clear
12:50	Collected		Sample					
			Took	MS+MSD				

REMARKS/NOTES:

ANALYTICAL REPORT

Lab Number:	L1960215
Client:	APEX Companies, LLC 120-D Wilbur Place Bohemia, NY 11716
ATTN:	Joe Gavin
Phone:	(631) 567-1777
Project Name:	VALHALLA
Project Number:	VALHALLA
Report Date:	12/23/19

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: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1960215-01	FIELD BLANK	FIELD BLANK	115 WALL STREET, NY	12/16/19 10:00	12/16/19
L1960215-02	MW-3I	WATER	115 WALL STREET, NY	12/16/19 11:30	12/16/19
L1960215-03	MW-4S	WATER	115 WALL STREET, NY	12/16/19 12:50	12/16/19
L1960215-04	MW-1S	WATER	115 WALL STREET, NY	12/16/19 14:10	12/16/19
L1960215-05	MW-1I	WATER	115 WALL STREET, NY	12/16/19 15:00	12/16/19
L1960215-06	DUP-121619	WATER	115 WALL STREET, NY	12/16/19 14:20	12/16/19
L1960215-07	TRIP BLANK	TRIP BLANK (AQUEOUS)	115 WALL STREET, NY	12/16/19 00:00	12/16/19

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

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.

Sample Receipt

L1960215-07: A sample identified as "TRIP BLANK" was received, but not listed on the Chain of Custody. At the client's request, this sample was analyzed.

Total Metals

L1960215-01: The Field Blank has a result for iron present above the reporting limit. The sample was verified as being labeled correctly by the laboratory and the previous analysis showed there was no potential for carry over.

The WG1323231-4 MSD recoveries, performed on L1960215-03, are outside the acceptance criteria for chromium (74%) and manganese (72%). A post digestion spike was performed and was within acceptance criteria.

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: Melissa Sturgis Melissa Sturgis

Title: Technical Director/Representative Date: 12/23/19

ORGANICS

VOLATILES

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-01
Client ID: FIELD BLANK
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 10:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Field Blank
Analytical Method: 1,8260C
Analytical Date: 12/20/19 20:26
Analyst: MKS

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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-01 Date Collected: 12/16/19 10:00

Client ID: FIELD BLANK Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-01 Date Collected: 12/16/19 10:00

Client ID: FIELD BLANK Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	112		70-130

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-02 Date Collected: 12/16/19 11:30
Client ID: MW-3I Date Received: 12/16/19
Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/20/19 20:48
Analyst: MKS

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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	1.1		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

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-02 Date Collected: 12/16/19 11:30

Client ID: MW-3I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	0.49	J	ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	2.4	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	2.4	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-02 Date Collected: 12/16/19 11:30

Client ID: MW-3I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	109		70-130

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-03
Client ID: MW-4S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 12:50
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/20/19 21:10
Analyst: MKS

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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	0.88	J	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

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-03 Date Collected: 12/16/19 12:50

Client ID: MW-4S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	1.2	J	ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	1.2	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-03 Date Collected: 12/16/19 12:50

Client ID: MW-4S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	114		70-130

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-04 Date Collected: 12/16/19 14:10
Client ID: MW-1S Date Received: 12/16/19
Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/20/19 21:32
Analyst: MKS

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	2.3	J	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	0.70		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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	2.0		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	1.8		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	1.5	J	ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-04 Date Collected: 12/16/19 14:10

Client ID: MW-1S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	96		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	49		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	51	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	5.1		ug/l	5.0	1.0	1
Acetone	1.7	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	0.92	J	ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-04 Date Collected: 12/16/19 14:10

Client ID: MW-1S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	3.8		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	108		70-130

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-05 D
Client ID: MW-1I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 15:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/20/19 21:54
Analyst: MKS

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	3.6	J	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	ND		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
1,3-Dichloropropene, Total	ND		ug/l	2.0	0.58	4
1,1-Dichloropropene	ND		ug/l	10	2.8	4
Bromoform	ND		ug/l	8.0	2.6	4
1,1,2,2-Tetrachloroethane	ND		ug/l	2.0	0.67	4
Benzene	49		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	60		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	4.1	J	ug/l	10	2.8	4

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-05 D Date Collected: 12/16/19 15:00

Client ID: MW-1I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	26		ug/l	2.0	0.70	4
1,2-Dichlorobenzene	ND		ug/l	10	2.8	4
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
Xylenes, Total	ND		ug/l	10	2.8	4
cis-1,2-Dichloroethene	370		ug/l	10	2.8	4
1,2-Dichloroethene, Total	370	J	ug/l	10	2.8	4
Dibromomethane	ND		ug/l	20	4.0	4
1,2,3-Trichloropropane	ND		ug/l	10	2.8	4
Acrylonitrile	ND		ug/l	20	6.0	4
Styrene	ND		ug/l	10	2.8	4
Dichlorodifluoromethane	ND		ug/l	20	4.0	4
Acetone	38		ug/l	20	5.8	4
Carbon disulfide	ND		ug/l	20	4.0	4
2-Butanone	ND		ug/l	20	7.8	4
Vinyl acetate	ND		ug/l	20	4.0	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
2,2-Dichloropropane	ND		ug/l	10	2.8	4
1,2-Dibromoethane	ND		ug/l	8.0	2.6	4
1,3-Dichloropropane	ND		ug/l	10	2.8	4
1,1,1,2-Tetrachloroethane	ND		ug/l	10	2.8	4
Bromobenzene	ND		ug/l	10	2.8	4
n-Butylbenzene	ND		ug/l	10	2.8	4
sec-Butylbenzene	ND		ug/l	10	2.8	4
tert-Butylbenzene	ND		ug/l	10	2.8	4
o-Chlorotoluene	ND		ug/l	10	2.8	4
p-Chlorotoluene	ND		ug/l	10	2.8	4
1,2-Dibromo-3-chloropropane	ND		ug/l	10	2.8	4
Hexachlorobutadiene	ND		ug/l	10	2.8	4
Isopropylbenzene	ND		ug/l	10	2.8	4
p-Isopropyltoluene	ND		ug/l	10	2.8	4
Naphthalene	ND		ug/l	10	2.8	4

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-05 D Date Collected: 12/16/19 15:00

Client ID: MW-1I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	10	2.8	4
1,2,4-Trimethylbenzene	ND		ug/l	10	2.8	4
1,4-Dioxane	ND		ug/l	1000	240	4
p-Diethylbenzene	ND		ug/l	8.0	2.8	4
p-Ethyltoluene	ND		ug/l	8.0	2.8	4
1,2,4,5-Tetramethylbenzene	ND		ug/l	8.0	2.2	4
Ethyl ether	ND		ug/l	10	2.8	4
trans-1,4-Dichloro-2-butene	ND		ug/l	10	2.8	4

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	112		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	112		70-130

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-06 Date Collected: 12/16/19 14:20
Client ID: DUP-121619 Date Received: 12/16/19
Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/20/19 22:16
Analyst: MKS

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	2.4	J	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	0.75		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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	2.0		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	1.5		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	1.5	J	ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-06 Date Collected: 12/16/19 14:20

Client ID: DUP-121619 Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	98		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	51		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	53	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	5.2		ug/l	5.0	1.0	1
Acetone	1.8	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	0.91	J	ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-06 Date Collected: 12/16/19 14:20

Client ID: DUP-121619 Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	3.6		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	109		70-130

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-07
Client ID: TRIP BLANK
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 00:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Trip Blank (Aqueous)
Analytical Method: 1,8260C
Analytical Date: 12/21/19 10:39
Analyst: JC

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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-07 Date Collected: 12/16/19 00:00

Client ID: TRIP BLANK Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Trichloroethene	ND		ug/l	0.50	0.18	1
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Xylenes, Total	ND		ug/l	2.5	0.70	1
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70	1
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-07 Date Collected: 12/16/19 00:00

Client ID: TRIP BLANK Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	93		70-130

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/19 18:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1323788-5					
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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
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

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/19 18:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1323788-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
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
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
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
Vinyl acetate	ND		ug/l	5.0	1.0
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
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/20/19 18:15
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1323788-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	97		70-130
Dibromofluoromethane	107		70-130

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/21/19 10:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1324030-5					
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
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14
1,1-Dichloropropene	ND		ug/l	2.5	0.70
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

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/21/19 10:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1324030-5					
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
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
Xylenes, Total	ND		ug/l	2.5	0.70
cis-1,2-Dichloroethene	ND		ug/l	2.5	0.70
1,2-Dichloroethene, Total	ND		ug/l	2.5	0.70
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
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
Vinyl acetate	ND		ug/l	5.0	1.0
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
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70

Project Name: VALHALLA **Lab Number:** L1960215

Project Number: VALHALLA **Report Date:** 12/23/19

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/21/19 10:12
Analyst: MKS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 07 Batch: WG1324030-5					
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	99		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1323788-3 WG1323788-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		100		70-130	10		20
Chloroform	99		100		70-130	1		20
Carbon tetrachloride	98		99		63-132	1		20
1,2-Dichloropropane	97		98		70-130	1		20
Dibromochloromethane	90		92		63-130	2		20
1,1,2-Trichloroethane	94		98		70-130	4		20
Tetrachloroethene	95		97		70-130	2		20
Chlorobenzene	94		96		75-130	2		20
Trichlorofluoromethane	120		120		62-150	0		20
1,2-Dichloroethane	95		97		70-130	2		20
1,1,1-Trichloroethane	97		99		67-130	2		20
Bromodichloromethane	94		98		67-130	4		20
trans-1,3-Dichloropropene	81		84		70-130	4		20
cis-1,3-Dichloropropene	83		85		70-130	2		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	82		83		54-136	1		20
1,1,2,2-Tetrachloroethane	88		88		67-130	0		20
Benzene	100		100		70-130	0		20
Toluene	97		100		70-130	3		20
Ethylbenzene	95		98		70-130	3		20
Chloromethane	**160**	Q	**160**	Q	64-130	0		20
Bromomethane	**160**	Q	**160**	Q	39-139	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1323788-3 WG1323788-4								
Vinyl chloride	**150**	Q	**150**	Q	55-140	0		20
Chloroethane	130		**150**	Q	55-138	14		20
1,1-Dichloroethene	120		120		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	110		110		70-130	0		20
1,2-Dichlorobenzene	98		98		70-130	0		20
1,3-Dichlorobenzene	99		100		70-130	1		20
1,4-Dichlorobenzene	98		98		70-130	0		20
Methyl tert butyl ether	78		84		63-130	7		20
p/m-Xylene	95		100		70-130	5		20
o-Xylene	95		95		70-130	0		20
cis-1,2-Dichloroethene	100		100		70-130	0		20
Dibromomethane	92		94		70-130	2		20
1,2,3-Trichloropropane	87		91		64-130	4		20
Acrylonitrile	86		91		70-130	6		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	140		140		36-147	0		20
Acetone	67		78		58-148	15		20
Carbon disulfide	120		120		51-130	0		20
2-Butanone	75		79		63-138	5		20
Vinyl acetate	90		99		70-130	10		20
4-Methyl-2-pentanone	72		72		59-130	0		20
2-Hexanone	63		70		57-130	11		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1323788-3 WG1323788-4								
Bromochloromethane	97		100		70-130	3		20
2,2-Dichloropropane	88		91		63-133	3		20
1,2-Dibromoethane	89		92		70-130	3		20
1,3-Dichloropropane	93		97		70-130	4		20
1,1,1,2-Tetrachloroethane	93		94		64-130	1		20
Bromobenzene	94		94		70-130	0		20
n-Butylbenzene	100		110		53-136	10		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	83		84		70-130	1		20
o-Chlorotoluene	99		98		70-130	1		20
p-Chlorotoluene	98		98		70-130	0		20
1,2-Dibromo-3-chloropropane	77		89		41-144	14		20
Hexachlorobutadiene	93		98		63-130	5		20
Isopropylbenzene	97		98		70-130	1		20
p-Isopropyltoluene	100		100		70-130	0		20
Naphthalene	76		80		70-130	5		20
n-Propylbenzene	99		100		69-130	1		20
1,2,3-Trichlorobenzene	84		88		70-130	5		20
1,2,4-Trichlorobenzene	88		88		70-130	0		20
1,3,5-Trimethylbenzene	100		100		64-130	0		20
1,2,4-Trimethylbenzene	99		100		70-130	1		20
1,4-Dioxane	80		88		56-162	10		20
p-Diethylbenzene	98		100		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1323788-3 WG1323788-4								
p-Ethyltoluene	99		100		70-130	1		20
1,2,4,5-Tetramethylbenzene	90		90		70-130	0		20
Ethyl ether	97		100		59-134	3		20
trans-1,4-Dichloro-2-butene	92		82		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		104		70-130
Toluene-d8	101		102		70-130
4-Bromofluorobenzene	98		98		70-130
Dibromofluoromethane	102		106		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1324030-3 WG1324030-4								
Methylene chloride	100		100		70-130	0		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	110		110		63-132	0		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	97		100		63-130	3		20
1,1,2-Trichloroethane	99		100		70-130	1		20
Tetrachloroethene	100		100		70-130	0		20
Chlorobenzene	100		100		75-130	0		20
Trichlorofluoromethane	110		110		62-150	0		20
1,2-Dichloroethane	97		100		70-130	3		20
1,1,1-Trichloroethane	110		110		67-130	0		20
Bromodichloromethane	100		100		67-130	0		20
trans-1,3-Dichloropropene	100		110		70-130	10		20
cis-1,3-Dichloropropene	100		110		70-130	10		20
1,1-Dichloropropene	110		110		70-130	0		20
Bromoform	91		95		54-136	4		20
1,1,2,2-Tetrachloroethane	98		100		67-130	2		20
Benzene	110		110		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		110		70-130	10		20
Chloromethane	110		100		64-130	10		20
Bromomethane	78		82		39-139	5		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1324030-3 WG1324030-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	120		120		55-138	0		20
1,1-Dichloroethene	110		110		61-145	0		20
trans-1,2-Dichloroethene	110		110		70-130	0		20
Trichloroethene	100		100		70-130	0		20
1,2-Dichlorobenzene	98		100		70-130	2		20
1,3-Dichlorobenzene	100		100		70-130	0		20
1,4-Dichlorobenzene	99		100		70-130	1		20
Methyl tert butyl ether	110		110		63-130	0		20
p/m-Xylene	100		105		70-130	5		20
o-Xylene	100		100		70-130	0		20
cis-1,2-Dichloroethene	100		110		70-130	10		20
Dibromomethane	100		100		70-130	0		20
1,2,3-Trichloropropane	93		100		64-130	7		20
Acrylonitrile	110		110		70-130	0		20
Styrene	100		100		70-130	0		20
Dichlorodifluoromethane	100		100		36-147	0		20
Acetone	110		100		58-148	10		20
Carbon disulfide	110		110		51-130	0		20
2-Butanone	94		100		63-138	6		20
Vinyl acetate	120		130		70-130	8		20
4-Methyl-2-pentanone	100		100		59-130	0		20
2-Hexanone	100		100		57-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1324030-3 WG1324030-4								
Bromochloromethane	110		110		70-130	0		20
2,2-Dichloropropane	110		**140**	Q	63-133	**24**	Q	20
1,2-Dibromoethane	98		100		70-130	2		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	100		100		64-130	0		20
Bromobenzene	97		100		70-130	3		20
n-Butylbenzene	100		110		53-136	10		20
sec-Butylbenzene	110		100		70-130	10		20
tert-Butylbenzene	100		110		70-130	10		20
o-Chlorotoluene	100		110		70-130	10		20
p-Chlorotoluene	100		110		70-130	10		20
1,2-Dibromo-3-chloropropane	91		95		41-144	4		20
Hexachlorobutadiene	98		110		63-130	12		20
Isopropylbenzene	100		110		70-130	10		20
p-Isopropyltoluene	96		100		70-130	4		20
Naphthalene	94		98		70-130	4		20
n-Propylbenzene	100		110		69-130	10		20
1,2,3-Trichlorobenzene	97		100		70-130	3		20
1,2,4-Trichlorobenzene	98		100		70-130	2		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20
1,4-Dioxane	100		98		56-162	2		20
p-Diethylbenzene	100		110		70-130	10		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 07 Batch: WG1324030-3 WG1324030-4								
p-Ethyltoluene	100		110		70-130	10		20
1,2,4,5-Tetramethylbenzene	98		100		70-130	2		20
Ethyl ether	100		100		59-134	0		20
trans-1,4-Dichloro-2-butene	100		110		70-130	10		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	96		110		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	103		103		70-130
Dibromofluoromethane	100		99		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

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): 01-06 QC Batch ID: WG1323788-6 WG1323788-7 QC Sample: L1960215-03 Client ID: MW-4S												
Methylene chloride	ND	10	11	110		11	110		70-130	0		20
1,1-Dichloroethane	ND	10	9.6	96		10	100		70-130	4		20
Chloroform	ND	10	10	100		10	100		70-130	0		20
Carbon tetrachloride	ND	10	9.9	99		10	100		63-132	1		20
1,2-Dichloropropane	ND	10	9.6	96		10	100		70-130	4		20
Dibromochloromethane	ND	10	9.1	91		9.4	94		63-130	3		20
1,1,2-Trichloroethane	ND	10	9.6	96		10	100		70-130	4		20
Tetrachloroethene	ND	10	9.4	94		10	100		70-130	6		20
Chlorobenzene	ND	10	9.2	92		9.7	97		75-130	5		20
Trichlorofluoromethane	ND	10	13	130		13	130		62-150	0		20
1,2-Dichloroethane	ND	10	9.4	94		9.5	95		70-130	1		20
1,1,1-Trichloroethane	ND	10	10	100		10	100		67-130	0		20
Bromodichloromethane	ND	10	9.3	93		9.9	99		67-130	6		20
trans-1,3-Dichloropropene	ND	10	7.9	79		8.0	80		70-130	1		20
cis-1,3-Dichloropropene	ND	10	8.0	80		8.3	83		70-130	4		20
1,1-Dichloropropene	ND	10	11	110		11	110		70-130	0		20
Bromoform	ND	10	8.0	80		8.8	88		54-136	10		20
1,1,2,2-Tetrachloroethane	ND	10	9.3	93		10	100		67-130	7		20
Benzene	ND	10	11	110		11	110		70-130	0		20
Toluene	ND	10	9.7	97		9.9	99		70-130	2		20
Ethylbenzene	ND	10	9.5	95		9.9	99		70-130	4		20
Chloromethane	ND	10	13	130		14	**140**	Q	64-130	7		20
Bromomethane	ND	10	8.9	89		11	110		39-139	**21**	Q	20

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

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): 01-06 QC Batch ID: WG1323788-6 WG1323788-7 QC Sample: L1960215-03 Client ID: MW-4S												
Vinyl chloride	0.88J	10	16	**160**	Q	17	**170**	Q	55-140	6		20
Chloroethane	ND	10	16	**160**	Q	17	**170**	Q	55-138	6		20
1,1-Dichloroethene	ND	10	12	120		12	120		61-145	0		20
trans-1,2-Dichloroethene	ND	10	11	110		11	110		70-130	0		20
Trichloroethene	ND	10	11	110		11	110		70-130	0		20
1,2-Dichlorobenzene	ND	10	9.2	92		10	100		70-130	8		20
1,3-Dichlorobenzene	ND	10	9.3	93		10	100		70-130	7		20
1,4-Dichlorobenzene	ND	10	9.3	93		10	100		70-130	7		20
Methyl tert butyl ether	ND	10	8.6	86		8.9	89		63-130	3		20
p/m-Xylene	ND	20	19	95		20	100		70-130	5		20
o-Xylene	ND	20	19	95		19	95		70-130	0		20
cis-1,2-Dichloroethene	1.2J	10	12	120		12	120		70-130	0		20
Dibromomethane	ND	10	9.7	97		9.8	98		70-130	1		20
1,2,3-Trichloropropane	ND	10	9.3	93		10	100		64-130	7		20
Acrylonitrile	ND	10	8.9	89		9.6	96		70-130	8		20
Styrene	ND	20	18	90		19	95		70-130	5		20
Dichlorodifluoromethane	ND	10	15	**150**	Q	14	140		36-147	7		20
Acetone	ND	10	10	100		10	100		58-148	0		20
Carbon disulfide	ND	10	12	120		12	120		51-130	0		20
2-Butanone	ND	10	9.3	93		8.9	89		63-138	4		20
Vinyl acetate	ND	10	9.2	92		9.6	96		70-130	4		20
4-Methyl-2-pentanone	ND	10	8.2	82		8.5	85		59-130	4		20
2-Hexanone	ND	10	7.8	78		8.0	80		57-130	3		20

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

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): 01-06 QC Batch ID: WG1323788-6 WG1323788-7 QC Sample: L1960215-03 Client ID: MW-4S												
Bromochloromethane	ND	10	9.6	96		10	100		70-130	4		20
2,2-Dichloropropane	ND	10	7.1	71		7.1	71		63-133	0		20
1,2-Dibromoethane	ND	10	9.0	90		9.4	94		70-130	4		20
1,3-Dichloropropane	ND	10	9.5	95		9.8	98		70-130	3		20
1,1,1,2-Tetrachloroethane	ND	10	8.8	88		9.4	94		64-130	7		20
Bromobenzene	ND	10	9.0	90		10	100		70-130	11		20
n-Butylbenzene	ND	10	9.8	98		11	110		53-136	12		20
sec-Butylbenzene	ND	10	10	100		11	110		70-130	10		20
tert-Butylbenzene	ND	10	8.0	80		8.9	89		70-130	11		20
o-Chlorotoluene	ND	10	9.4	94		10	100		70-130	6		20
p-Chlorotoluene	ND	10	9.1	91		10	100		70-130	9		20
1,2-Dibromo-3-chloropropane	ND	10	8.8	88		9.4	94		41-144	7		20
Hexachlorobutadiene	ND	10	9.1	91		10	100		63-130	9		20
Isopropylbenzene	ND	10	9.4	94		10	100		70-130	6		20
p-Isopropyltoluene	ND	10	9.4	94		11	110		70-130	16		20
Naphthalene	ND	10	8.2	82		9.1	91		70-130	10		20
n-Propylbenzene	ND	10	9.5	95		10	100		69-130	5		20
1,2,3-Trichlorobenzene	ND	10	8.5	85		9.5	95		70-130	11		20
1,2,4-Trichlorobenzene	ND	10	8.5	85		9.6	96		70-130	12		20
1,3,5-Trimethylbenzene	ND	10	9.4	94		10	100		64-130	6		20
1,2,4-Trimethylbenzene	ND	10	9.6	96		10	100		70-130	4		20
1,4-Dioxane	ND	500	500	100		510	102		56-162	2		20
p-Diethylbenzene	ND	10	9.2	92		10	100		70-130	8		20

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

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): 01-06 QC Batch ID: WG1323788-6 WG1323788-7 QC Sample: L1960215-03 Client ID: MW-4S												
p-Ethyltoluene	ND	10	9.5	95		10	100		70-130	5		20
1,2,4,5-Tetramethylbenzene	ND	10	8.8	88		9.7	97		70-130	10		20
Ethyl ether	ND	10	10	100		11	110		59-134	10		20
trans-1,4-Dichloro-2-butene	ND	10	8.2	82		7.9	79		70-130	4		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		102		70-130
4-Bromofluorobenzene	98		101		70-130
Dibromofluoromethane	108		103		70-130
Toluene-d8	100		101		70-130

METALS

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-01
Client ID: FIELD BLANK
Sample Location: 115 WALL STREET, NY
Sample Depth:
Matrix: Field Blank

Date Collected: 12/16/19 10:00
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:28	EPA 3005A	1,6010D	PE
Iron, Total	0.054		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 18:28	EPA 3005A	1,6010D	PE
Manganese, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:28	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-02
Client ID: MW-3I
Sample Location: 115 WALL STREET, NY
Date Collected: 12/16/19 11:30
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:24	EPA 3005A	1,6010D	PE
Iron, Total	104		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 18:24	EPA 3005A	1,6010D	PE
Manganese, Total	8.95		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:24	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-03
Client ID: MW-4S
Sample Location: 115 WALL STREET, NY
Sample Depth:
Matrix: Water

Date Collected: 12/16/19 12:50
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 19:02	EPA 3005A	1,6010D	PE
Iron, Total	3.93		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 19:02	EPA 3005A	1,6010D	PE
Manganese, Total	0.650		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 19:02	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-04
Client ID: MW-1S
Sample Location: 115 WALL STREET, NY
Sample Depth:
Matrix: Water

Date Collected: 12/16/19 14:10
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:33	EPA 3005A	1,6010D	PE
Iron, Total	26.9		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 18:33	EPA 3005A	1,6010D	PE
Manganese, Total	11.0		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:33	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-05
Client ID: MW-1I
Sample Location: 115 WALL STREET, NY
Sample Depth:
Matrix: Water

Date Collected: 12/16/19 15:00
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:37	EPA 3005A	1,6010D	PE
Iron, Total	5.28		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 18:37	EPA 3005A	1,6010D	PE
Manganese, Total	2.05		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:37	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-06
Client ID: DUP-121619
Sample Location: 115 WALL STREET, NY
Sample Depth:
Matrix: Water

Date Collected: 12/16/19 14:20
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 19:23	EPA 3005A	1,6010D	PE
Iron, Total	30.9		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 19:23	EPA 3005A	1,6010D	PE
Manganese, Total	10.8		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 19:23	EPA 3005A	1,6010D	PE

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1323231-1										
Chromium, Total	ND		mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:54	1,6010D	PE
Iron, Total	ND		mg/l	0.050	0.009	1	12/20/19 10:26	12/20/19 18:54	1,6010D	PE
Manganese, Total	0.004	J	mg/l	0.010	0.002	1	12/20/19 10:26	12/20/19 18:54	1,6010D	PE

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960215

Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1323231-2								
Chromium, Total	84		-		80-120	-		
Iron, Total	86		-		80-120	-		
Manganese, Total	80		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1323231-3 WG1323231-4 QC Sample: L1960215-03 Client ID: MW-4S												
Chromium, Total	ND	0.2	0.172	86		0.148	**74**	Q	75-125	15		20
Iron, Total	3.93	1	4.92	99		4.87	94		75-125	1		20
Manganese, Total	0.650	0.5	1.07	84		1.01	**72**	Q	75-125	6		20

INORGANICS
&
MISCELLANEOUS

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-01
Client ID: FIELD BLANK
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 10:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Field Blank

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	0.87	J	mg/l	1.0	0.20	1	-	12/20/19 19:58	121,4500CL-E	TL
Total Organic Carbon	0.37	J	mg/l	0.50	0.11	1	-	12/19/19 23:08	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-02
Client ID: MW-3I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 11:30
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	850		mg/l	20	4.0	20	-	12/20/19 22:35	121,4500CL-E	TL
Total Organic Carbon	2.4		mg/l	0.50	0.11	1	-	12/19/19 17:32	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-03
Client ID: MW-4S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 12:50
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	64.		mg/l	1.0	0.20	1	-	12/20/19 22:35	121,4500CL-E	TL
Total Organic Carbon	4.7		mg/l	0.50	0.11	1	-	12/19/19 18:05	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-04
Client ID: MW-1S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:10
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	130		mg/l	10	2.0	10	-	12/20/19 22:38	121,4500CL-E	TL
Total Organic Carbon	20		mg/l	2.0	0.46	4	-	12/19/19 23:40	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-05
Client ID: MW-1I
Sample Location: 115 WALL STREET, NY

Sample Depth:
Matrix: Water

Date Collected: 12/16/19 15:00
Date Received: 12/16/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	79.		mg/l	10	2.0	10	-	12/20/19 20:08	121,4500CL-E	TL
Total Organic Carbon	19		mg/l	5.0	1.1	10	-	12/19/19 19:09	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

SAMPLE RESULTS

Lab ID: L1960215-06
Client ID: DUP-121619
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:20
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	110		mg/l	10	2.0	10	-	12/20/19 20:11	121,4500CL-E	TL
Total Organic Carbon	18		mg/l	2.0	0.46	4	-	12/20/19 15:28	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960215
Report Date: 12/23/19

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1322838-1										
Total Organic Carbon	ND		mg/l	0.50	0.11	1	-	12/19/19 08:08	1,9060A	DW
General Chemistry - Westborough Lab for sample(s): 06 Batch: WG1323069-1										
Total Organic Carbon	ND		mg/l	0.50	0.11	1	-	12/20/19 06:16	1,9060A	DW
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1323406-1										
Chloride	0.56	J	mg/l	1.0	0.20	1	-	12/20/19 19:56	121,4500CL-E	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960215

Report Date: 12/23/19

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1322838-2								
Total Organic Carbon	95		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 06 Batch: WG1323069-2								
Total Organic Carbon	92		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1323406-2								
Chloride	100		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1322838-4 QC Sample: L1960215-03 Client ID: MW-4S												
Total Organic Carbon	4.7	16	22	111		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 06 QC Batch ID: WG1323069-4 QC Sample: L1960215-06 Client ID: DUP-121619												
Total Organic Carbon	18	40	59	103		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1323406-4 QC Sample: L1960215-03 Client ID: MW-4S												
Chloride	64.	20	81	85		-	-		58-140	-		7

Lab Duplicate Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960215

Report Date: 12/23/19

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1322838-3 QC Sample: L1960215-03 Client ID: MW-4S						
Total Organic Carbon	4.7	4.8	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 06 QC Batch ID: WG1323069-3 QC Sample: L1960215-06 Client ID: DUP-121619						
Total Organic Carbon	18	19	mg/l	5		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1323406-3 QC Sample: L1960215-03 Client ID: MW-4S						
Chloride	64.	64	mg/l	0		7

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1960215-01A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-01B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-01C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-01D	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-01E	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-01F	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		CL-4500(28)
L1960215-01G	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-02A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-02B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-02C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-02D	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-02E	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-02F	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		CL-4500(28)
L1960215-02G	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-03A	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03A1	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03A2	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03B	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03B1	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03B2	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03C	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03C1	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1960215-03C2	Vial HCl preserved	A	NA		4.2	Y	Absent		NYTCL-8260(14)
L1960215-03D	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03D1	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03D2	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03E	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03E1	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03E2	Vial H2SO4 preserved	A	NA		4.2	Y	Absent		TOC-9060(28)
L1960215-03F	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		CL-4500(28)
L1960215-03F1	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		CL-4500(28)
L1960215-03F2	Plastic 60ml unpreserved	A	7	7	4.2	Y	Absent		CL-4500(28)
L1960215-03G	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-03H	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-03I	Plastic 250ml HNO3 preserved	A	<2	<2	4.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-04A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-04B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-04C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-04D	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-04E	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-04F	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		CL-4500(28)
L1960215-04G	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-05A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-05B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-05C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-05D	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-05E	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-05F	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		CL-4500(28)
L1960215-05G	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1960215-06A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960215
Report Date: 12/23/19

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1960215-06B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-06C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-06D	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-06E	Vial H2SO4 preserved	B	NA		4.0	Y	Absent		TOC-9060(28)
L1960215-06F	Plastic 60ml unpreserved	B	7	7	4.0	Y	Absent		CL-4500(28)
L1960215-06G	Plastic 250ml HNO3 preserved	B	<2	<2	4.0	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1960215-07A	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-07B	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-07C	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)
L1960215-07D	Vial HCl preserved	B	NA		4.0	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

GLOSSARY

Acronyms

DL	- 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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 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.

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).

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

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

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.)

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

Data Qualifiers

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960215
Project Number:	VALHALLA	**Report Date:**	12/23/19

REFERENCES

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

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; 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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-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**, 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 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: 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 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, 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, Fe, Pb, Mn, Ni, K, Se, Ag, Na, 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 of

Date Rec'd in Lab: 12/16/19

ALPHA Job #: L1960215

Client Information
Client: APEX
Address: 129-D Wilbur Place
Phone: 631-567-1777
Fax:
Email: Joe.Gavin@apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Wall Street, NY
Project #: Valhalla
(Use Project name as Project #) ☐ Valhalla 1501
Project Manager: Joe Gavin
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

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:

Please specify Metals or TAL.

ANALYSIS

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	TCL VOC	Metals (Fe, Mn, Cu)	Chlorides	TOC	PFAS	1,4-Dioxane			Sample Specific Comments	Total Bottle
L0215-01	Field blank	12/16/19	10:00	W	JQ	X	X	X	X	X	X				
-02	3I	12/16/19	11:30	W	JQ	X	X	X	X	X	X				
-03	4S	12/16/19	12:50	W	JQ	X	X	X	X	X	X				
-04	4S-MS	12/16/19	12:55	W	JQ	X	X	X	X	X	X				
-05	4S-MSD	12/16/19	13:00	W	JQ	X	X	X	X	X	X				
-06	MW-1S	12/16/19	14:10	W	JQ	X	X	X	X	X	X				
-07	MW-1I	12/16/19	15:00	W	JQ	X	X	X	X	X	X				
-08	DUP-121619	12/16/19	14:20	W	JQ	X	X	X	X	X	X				

Container Type
Preservative

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

Relinquished By:	Date/Time	Received By:	Date/Time
	12/16/19 4:00		12/16/19 16:00
	12/16/19 17:16		12/16/19 17:16
	12/16/19 21:41		12/16/19 21:41

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)

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:

ALPHA Job #:

Client Information
Client: APEX
Address: 120-D Willow Place
Phone: 631-567-1777
Fax:
Email: Joe.Gavin@apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Wall Street, NY
Project #: Valhalla
(Use Project name as Project #) ☐ Valhalla 1901
Project Manager: Joe Gavin
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

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

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

Billing Information
☒ Same as Client Info
PO #:

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:
Separate Deliverable

Please specify Metals or TAL.

ANALYSIS

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	TCL VOC	Metals (Fe, Mn)	Chlorides	TOC	PFAS	1,4-Dioxane	Sample Specific Comments
	Field Blank	12/16/19	12:00	W	JQ	x	x	x	x	x	x	
	MW-3I	12/16/19	11:30	W	JQ	x	x	x	x	x	x	
	MW-4S	12/16/19	12:50	W	JQ	x	x	x	x	x	x	
	MW-4S-MS	12/16/19	12:55	W	JQ	x	x	x	x	x	x	
	MW-4S-MSD	12/16/19	13:00	W	JQ	x	x	x	x	x	x	
	MW-1S	12/16/19	14:10	W	JQ	x	x	x	x	x	x	
	MW-1I	12/16/19	15:00	W	JQ	x	x	x	x	x	x	
	DUP-121619	12/16/19	14:20	W	JQ	x	x	x	x	x	x	

Container Type	✓	P	P					
Preservative	B	C						

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

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	12/16/19 14:20	[signature]	12/16/19 16:00

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)

ANALYTICAL REPORT

Lab Number:	L1961700
Client:	APEX Companies, LLC 120-D Wilbur Place Bohemia, NY 11716
ATTN:	Joe Gavin
Phone:	(631) 567-1777
Project Name:	VALHALLA
Project Number:	VALHALLA 1501
Report Date:	03/25/20

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: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1961700-01	MW2S	WATER	115 WALL ST, VALHALLA, NY	12/26/19 10:35	12/26/19
L1961700-02	MW2I	WATER	115 WALL ST, VALHALLA, NY	12/26/19 11:35	12/26/19
L1961700-03	MW2D	WATER	115 WALL ST, VALHALLA, NY	12/26/19 12:35	12/26/19
L1961700-04	MW1D	WATER	115 WALL ST, VALHALLA, NY	12/26/19 09:45	12/26/19
L1961700-05	MW7S	WATER	115 WALL ST, VALHALLA, NY	12/26/19 13:45	12/26/19
L1961700-06	MW7I	WATER	115 WALL ST, VALHALLA, NY	12/26/19 14:45	12/26/19

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

Case Narrative (continued)

Report Revision

March 25, 2020: Freon-113 has been added to the Volatile Organics analyte list on L1961700-01 through -06.

Report Submission

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

Sample Receipt

The analyses performed were specified by the client.

Total Metals

The WG1325823-3 MS recovery for iron (10%), performed on L1961700-01, does not apply because the sample concentration is greater than four times the spike amount added.

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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 03/25/20

ORGANICS

VOLATILES

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-01
Client ID: MW2S
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 10:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 13:41
Analyst: AD

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-01 Date Collected: 12/26/19 10:35

Client ID: MW2S Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-01 Date Collected: 12/26/19 10:35

Client ID: MW2S Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	91		70-130

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-02 Date Collected: 12/26/19 11:35
Client ID: MW2I Date Received: 12/26/19
Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 14:06
Analyst: AD

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-02 Date Collected: 12/26/19 11:35

Client ID: MW2I Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-02 Date Collected: 12/26/19 11:35

Client ID: MW2I Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	101		70-130
Dibromofluoromethane	91		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-03
Client ID: MW2D
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 12:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 14:30
Analyst: AD

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	5.8		ug/l	0.50	0.18	1

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-03 Date Collected: 12/26/19 12:35

Client ID: MW2D Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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	0.74	J	ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-03 Date Collected: 12/26/19 12:35

Client ID: MW2D Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	94		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-04
Client ID: MW1D
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 09:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 14:55
Analyst: AD

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	1.1	J	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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	1
Bromoform	ND		ug/l	2.0	0.65	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.17	1
Benzene	2.4		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	2.1		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	0.71	J	ug/l	2.5	0.70	1
Trichloroethene	1.3		ug/l	0.50	0.18	1

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-04 Date Collected: 12/26/19 09:45

Client ID: MW1D Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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	6.2		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-04 Date Collected: 12/26/19 09:45

Client ID: MW1D Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	104		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	92		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-05
Client ID: MW7S
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 13:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 15:20
Analyst: AD

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	0.08	J	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-05 Date Collected: 12/26/19 13:45

Client ID: MW7S Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-05 Date Collected: 12/26/19 13:45

Client ID: MW7S Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	94		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-06
Client ID: MW7I
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 14:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/30/19 15:45
Analyst: AD

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-06 Date Collected: 12/26/19 14:45

Client ID: MW7I Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	2.8	J	ug/l	5.0	1.5	1
Carbon disulfide	2.2	J	ug/l	5.0	1.0	1
2-Butanone	ND		ug/l	5.0	1.9	1
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961700

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-06 Date Collected: 12/26/19 14:45

Client ID: MW7I Date Received: 12/26/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	93		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/30/19 10:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1325839-5					
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
1,1-Dichloropropene	ND		ug/l	2.5	0.70
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

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/30/19 10:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1325839-5					
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
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
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
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
Vinyl acetate	ND		ug/l	5.0	1.0
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
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/30/19 10:00
Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-06 Batch: WG1325839-5					
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	102		70-130
Dibromofluoromethane	92		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1325839-3 WG1325839-4								
Methylene chloride	96		94		70-130	2		20
1,1-Dichloroethane	100		100		70-130	0		20
Chloroform	96		94		70-130	2		20
Carbon tetrachloride	92		89		63-132	3		20
1,2-Dichloropropane	100		100		70-130	0		20
Dibromochloromethane	95		95		63-130	0		20
1,1,2-Trichloroethane	100		99		70-130	1		20
Tetrachloroethene	95		93		70-130	2		20
Chlorobenzene	99		99		75-130	0		20
Trichlorofluoromethane	93		90		62-150	3		20
1,2-Dichloroethane	88		87		70-130	1		20
1,1,1-Trichloroethane	93		91		67-130	2		20
Bromodichloromethane	92		90		67-130	2		20
trans-1,3-Dichloropropene	100		99		70-130	1		20
cis-1,3-Dichloropropene	100		97		70-130	3		20
1,1-Dichloropropene	98		95		70-130	3		20
Bromoform	96		91		54-136	5		20
1,1,2,2-Tetrachloroethane	110		100		67-130	10		20
Benzene	99		97		70-130	2		20
Toluene	100		98		70-130	2		20
Ethylbenzene	100		99		70-130	1		20
Chloromethane	90		89		64-130	1		20
Bromomethane	**26**	Q	**23**	Q	39-139	12		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1325839-3 WG1325839-4								
Vinyl chloride	84		80		55-140	5		20
Chloroethane	77		74		55-138	4		20
1,1-Dichloroethene	99		95		61-145	4		20
trans-1,2-Dichloroethene	100		96		70-130	4		20
Trichloroethene	94		93		70-130	1		20
1,2-Dichlorobenzene	100		100		70-130	0		20
1,3-Dichlorobenzene	100		99		70-130	1		20
1,4-Dichlorobenzene	100		99		70-130	1		20
Methyl tert butyl ether	96		94		63-130	2		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	100		95		70-130	5		20
cis-1,2-Dichloroethene	98		96		70-130	2		20
Dibromomethane	91		88		70-130	3		20
1,2,3-Trichloropropane	100		100		64-130	0		20
Acrylonitrile	110		110		70-130	0		20
Styrene	95		95		70-130	0		20
Dichlorodifluoromethane	86		82		36-147	5		20
Acetone	120		120		58-148	0		20
Carbon disulfide	100		99		51-130	1		20
2-Butanone	120		120		63-138	0		20
Vinyl acetate	**140**	Q	130		70-130	7		20
4-Methyl-2-pentanone	110		110		59-130	0		20
2-Hexanone	110		120		57-130	9		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1325839-3 WG1325839-4								
Bromochloromethane	100		98		70-130	2		20
2,2-Dichloropropane	96		90		63-133	6		20
1,2-Dibromoethane	97		97		70-130	0		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	98		96		64-130	2		20
Bromobenzene	100		98		70-130	2		20
n-Butylbenzene	120		110		53-136	9		20
sec-Butylbenzene	120		98		70-130	20		20
tert-Butylbenzene	110		100		70-130	10		20
o-Chlorotoluene	110		100		70-130	10		20
p-Chlorotoluene	110		100		70-130	10		20
1,2-Dibromo-3-chloropropane	91		92		41-144	1		20
Hexachlorobutadiene	110		100		63-130	10		20
Isopropylbenzene	110		100		70-130	10		20
p-Isopropyltoluene	120		110		70-130	9		20
Naphthalene	100		98		70-130	2		20
n-Propylbenzene	110		100		69-130	10		20
1,2,3-Trichlorobenzene	100		99		70-130	1		20
1,2,4-Trichlorobenzene	100		100		70-130	0		20
1,3,5-Trimethylbenzene	110		100		64-130	10		20
1,2,4-Trimethylbenzene	110		100		70-130	10		20
1,4-Dioxane	104		100		56-162	4		20
Freon-113	97		92		70-130	5		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-06 Batch: WG1325839-3 WG1325839-4								
p-Diethylbenzene	110		100		70-130	10		20
p-Ethyltoluene	110		100		70-130	10		20
1,2,4,5-Tetramethylbenzene	110		100		70-130	10		20
Ethyl ether	98		97		59-134	1		20
trans-1,4-Dichloro-2-butene	110		99		70-130	11		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		90		70-130
Toluene-d8	99		102		70-130
4-Bromofluorobenzene	103		102		70-130
Dibromofluoromethane	91		90		70-130

METALS

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-01
Client ID: MW2S
Sample Location: 115 WALL ST, VALHALLA, NY
Sample Depth:
Matrix: Water

Date Collected: 12/26/19 10:35
Date Received: 12/26/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.027		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:57	EPA 3005A	1,6010D	LC
Iron, Total	34.8		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 18:57	EPA 3005A	1,6010D	LC
Manganese, Total	1.30		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:57	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-02
Client ID: MW2I
Sample Location: 115 WALL ST, VALHALLA, NY
Sample Depth:
Matrix: Water

Date Collected: 12/26/19 11:35
Date Received: 12/26/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	ND		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:29	EPA 3005A	1,6010D	LC
Iron, Total	3.72		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 18:29	EPA 3005A	1,6010D	LC
Manganese, Total	0.044		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:29	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-03
Client ID: MW2D
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 12:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.004	J	mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:15	EPA 3005A	1,6010D	LC
Iron, Total	13.5		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 19:15	EPA 3005A	1,6010D	LC
Manganese, Total	0.071		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:15	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-04
Client ID: MW1D
Sample Location: 115 WALL ST, VALHALLA, NY
Sample Depth:
Matrix: Water

Date Collected: 12/26/19 09:45
Date Received: 12/26/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.006	J	mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:20	EPA 3005A	1,6010D	LC
Iron, Total	10.9		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 19:20	EPA 3005A	1,6010D	LC
Manganese, Total	3.19		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:20	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-05
Client ID: MW7S
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 13:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.028		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:24	EPA 3005A	1,6010D	LC
Iron, Total	50.0		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 19:24	EPA 3005A	1,6010D	LC
Manganese, Total	1.96		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:24	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-06
Client ID: MW7I
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/26/19 14:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.007	J	mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:29	EPA 3005A	1,6010D	LC
Iron, Total	3.67		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 19:29	EPA 3005A	1,6010D	LC
Manganese, Total	0.205		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 19:29	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-06 Batch: WG1325823-1										
Chromium, Total	ND		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:48	1,6010D	LC
Iron, Total	ND		mg/l	0.050	0.009	1	12/30/19 15:15	12/31/19 18:48	1,6010D	LC
Manganese, Total	ND		mg/l	0.010	0.002	1	12/30/19 15:15	12/31/19 18:48	1,6010D	LC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 Batch: WG1325823-2								
Chromium, Total	104		-		80-120	-		
Iron, Total	105		-		80-120	-		
Manganese, Total	94		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1325823-3 QC Sample: L1961700-01 Client ID: MW2S												
Chromium, Total	0.027	0.2	0.226	100		-	-		75-125	-		20
Iron, Total	34.8	1	34.9	**10**	Q	-	-		75-125	-		20
Manganese, Total	1.30	0.5	1.76	92		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1325823-4 QC Sample: L1961700-01 Client ID: MW2S						
Chromium, Total	0.027	0.028	mg/l	4		20
Iron, Total	34.8	35.4	mg/l	2		20
Manganese, Total	1.30	1.33	mg/l	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-01
Client ID: MW2S
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 10:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	83.		mg/l	10	2.0	10	-	12/30/19 21:22	121,4500CL-E	TL
Total Organic Carbon	5.8		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-02
Client ID: MW2I
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 11:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	71.		mg/l	10	2.0	10	-	12/30/19 19:49	121,4500CL-E	TL
Total Organic Carbon	3.0		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-03
Client ID: MW2D
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 12:35
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	79.		mg/l	1.0	0.20	1	-	12/30/19 21:17	121,4500CL-E	TL
Total Organic Carbon	1.9		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-04
Client ID: MW1D
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 09:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	35.		mg/l	1.0	0.20	1	-	12/30/19 21:18	121,4500CL-E	TL
Total Organic Carbon	2.3		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-05
Client ID: MW7S
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 13:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	610		mg/l	10	2.0	10	-	12/30/19 19:59	121,4500CL-E	TL
Total Organic Carbon	3.3		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961700-06
Client ID: MW7I
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/26/19 14:45
Date Received: 12/26/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	310		mg/l	10	2.0	10	-	12/30/19 21:20	121,4500CL-E	TL
Total Organic Carbon	10.		mg/l	2.0	0.46	4	-	12/30/19 07:10	1,9060A	AG

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1325643-1										
Total Organic Carbon	ND		mg/l	0.50	0.11	1	-	12/30/19 07:10	1,9060A	AG
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1325855-1										
Chloride	0.56	J	mg/l	1.0	0.20	1	-	12/30/19 19:45	121,4500CL-E	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1325643-2								
Total Organic Carbon	101		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1325855-2								
Chloride	100		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1325643-4 QC Sample: L1961686-01 Client ID: MS Sample												
Total Organic Carbon	29.	40	74	112		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1325855-4 QC Sample: L1961710-01 Client ID: MS Sample												
Chloride	72.	20	84	60		-	-		58-140	-		7

Lab Duplicate Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961700

Report Date: 03/25/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1325643-3 QC Sample: L1961686-01 Client ID: DUP Sample						
Total Organic Carbon	29.	30	mg/l	3		20
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1325855-3 QC Sample: L1961710-01 Client ID: DUP Sample						
Chloride	72.	73	mg/l	1		7

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

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(*)
L1961700-01A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-01B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-01C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-01D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-01E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-01F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-01G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1961700-02A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-02B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-02C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-02D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-02E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-02F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-02G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1961700-03A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-03B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-03C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-03D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-03E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-03F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-03G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1961700-04A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-04B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961700
Report Date: 03/25/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1961700-04C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-04D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-04E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-04F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-04G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1961700-05A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-05B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-05C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-05D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-05E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-05F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-05G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1961700-06A	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-06B	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-06C	Vial HCl preserved	A	NA		3.4	Y	Absent		NYTCL-8260(14)
L1961700-06D	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-06E	Vial H2SO4 preserved	A	NA		3.4	Y	Absent		TOC-9060(28)
L1961700-06F	Plastic 60ml unpreserved	A	7	7	3.4	Y	Absent		CL-4500(28)
L1961700-06G	Plastic 250ml HNO3 preserved	A	<2	<2	3.4	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)

*Values in parentheses indicate holding time in days

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

GLOSSARY

Acronyms

DL - 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

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.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

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.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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 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.

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).

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961700
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

REFERENCES

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

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-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**, 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 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: 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 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, 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, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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

NEW JERSEY 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: 12/26/19

ALPHA Job #: L1961700

Client Information
Client: Apex
Address: 120 Wilbur Pl
Phone: 631 367-1777
Fax:
Email: joe.gavin@apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Wall St Valhalla NY
Project #: Valhala 1501
(Use Project name as Project #) ☐
Project Manager: Joe Gavin
ALPHAQuote #:

Turn-Around Time
Standard ☒ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ NJ Full / Reduced
☐ EQuIS (1 File) ☐ EQuIS (4 File)
☐ Other

Regulatory Requirement
☐ SRS Residential/Non Residential
☐ SRS Impact to Groundwater
☐ NJ Ground Water Quality Standards
☐ NJ IGW SPLP Leachate Criteria
☐ Other

Billing Information
☒ Same as Client Info
PO #

Site Information
Is this site impacted by Petroleum? Yes ☐
Petroleum Product:

These samples have been previously analyzed by Alpha ☐

For EPH, selection is REQUIRED:
☐ Category 1
☐ Category 2

For VOC, selection is REQUIRED:
☐ 1,4-Dioxane
☐ 8011

Other project specific requirements/comments:
Please specify Metals or TAL.

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	TCL VOC	METALS	chlorides	TOC	Sample Specific Comments
L1700-01	MW2S	12/26/19	1035	W	JF	X	X	X	X	
-02	MW2I		1135		JF	X	X	X	X	
-03	MW2D		1235		JF	X	X	X	X	
-04	MW1D		0945		JF	X	X	X	X	
-05	MW7S		1345		JF	X	X	X	X	
-06	MW7I		1445		JF	X	X	X	X	

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								
	Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
	12/26 1500		12/26/19 1500
	12/26/19 1618		12/26/19 1620
	12/26 2045		12/26/19 2045

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: 01-14 HC (rev. 30-Sept-2013)

ANALYTICAL REPORT

Lab Number:	L1961789
Client:	APEX Companies, LLC 120-D Wilbur Place Bohemia, NY 11716
ATTN:	Joe Gavin
Phone:	(631) 567-1777
Project Name:	VALHALLA
Project Number:	VALHALLA 1501
Report Date:	03/25/20

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: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1961789-01	MW4I	WATER	115 WALL ST, VALHALLA, NY	12/27/19 12:55	12/27/19
L1961789-02	MWP1	WATER	115 WALL ST, VALHALLA, NY	12/27/19 12:05	12/27/19
L1961789-03	MWP2	WATER	115 WALL ST, VALHALLA, NY	12/27/19 10:50	12/27/19
L1961789-04	MW3D	WATER	115 WALL ST, VALHALLA, NY	12/27/19 09:35	12/27/19
L1961789-05	MW3S	WATER	115 WALL ST, VALHALLA, NY	12/27/19 08:40	12/27/19

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

Case Narrative (continued)

Report Revision

March 25, 2020: Freon-113 has been added to the Volatile Organics analyte list on L1961789-01 through -05.

Report Submission

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

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: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 03/25/20

ORGANICS

VOLATILES

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-01 Date Collected: 12/27/19 12:55

Client ID: MW4I Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/31/19 13:07

Analyst: JAL

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	1.2		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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-01 Date Collected: 12/27/19 12:55

Client ID: MW4I Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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	3.0		ug/l	2.5	0.70	1
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-01 Date Collected: 12/27/19 12:55

Client ID: MW4I Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	103		70-130

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-02
Client ID: MWP1
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/27/19 12:05
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/31/19 13:38
Analyst: JAL

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-02 Date Collected: 12/27/19 12:05

Client ID: MWP1 Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-02 Date Collected: 12/27/19 12:05

Client ID: MWP1 Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	109		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	117		70-130
Dibromofluoromethane	102		70-130

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-03 Date Collected: 12/27/19 10:50

Client ID: MWP2 Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/31/19 14:08

Analyst: JAL

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-03 Date Collected: 12/27/19 10:50

Client ID: MWP2 Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-03 Date Collected: 12/27/19 10:50

Client ID: MWP2 Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	120		70-130
Dibromofluoromethane	102		70-130

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-04
Client ID: MW3D
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/27/19 09:35
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 12/31/19 14:39
Analyst: JAL

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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	4.4		ug/l	0.50	0.18	1

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-04 Date Collected: 12/27/19 09:35

Client ID: MW3D Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-04 Date Collected: 12/27/19 09:35

Client ID: MW3D Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	110		70-130
Toluene-d8	101		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	103		70-130

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-05 Date Collected: 12/27/19 08:40

Client ID: MW3S Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 12/31/19 15:09

Analyst: JAL

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
1,1-Dichloropropene	ND		ug/l	2.5	0.70	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-05 Date Collected: 12/27/19 08:40

Client ID: MW3S Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,2-Dichlorobenzene	ND		ug/l	2.5	0.70	1
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
Dibromomethane	ND		ug/l	5.0	1.0	1
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70	1
Acrylonitrile	ND		ug/l	5.0	1.5	1
Styrene	ND		ug/l	2.5	0.70	1
Dichlorodifluoromethane	ND		ug/l	5.0	1.0	1
Acetone	150		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
Vinyl acetate	ND		ug/l	5.0	1.0	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
2,2-Dichloropropane	ND		ug/l	2.5	0.70	1
1,2-Dibromoethane	ND		ug/l	2.0	0.65	1
1,3-Dichloropropane	ND		ug/l	2.5	0.70	1
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70	1
Bromobenzene	ND		ug/l	2.5	0.70	1
n-Butylbenzene	ND		ug/l	2.5	0.70	1
sec-Butylbenzene	ND		ug/l	2.5	0.70	1
tert-Butylbenzene	ND		ug/l	2.5	0.70	1
o-Chlorotoluene	ND		ug/l	2.5	0.70	1
p-Chlorotoluene	ND		ug/l	2.5	0.70	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70	1
Hexachlorobutadiene	ND		ug/l	2.5	0.70	1
Isopropylbenzene	ND		ug/l	2.5	0.70	1
p-Isopropyltoluene	ND		ug/l	2.5	0.70	1
Naphthalene	ND		ug/l	2.5	0.70	1
n-Propylbenzene	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

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-05 Date Collected: 12/27/19 08:40

Client ID: MW3S Date Received: 12/27/19

Sample Location: 115 WALL ST, VALHALLA, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70	1
1,4-Dioxane	ND		ug/l	250	61.	1
Freon-113	ND		ug/l	2.5	0.70	1
p-Diethylbenzene	ND		ug/l	2.0	0.70	1
p-Ethyltoluene	ND		ug/l	2.0	0.70	1
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54	1
Ethyl ether	ND		ug/l	2.5	0.70	1
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	111		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	105		70-130

Project Name: VALHALLA **Lab Number:** L1961789

Project Number: VALHALLA 1501 **Report Date:** 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/31/19 06:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1326239-5					
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
1,1-Dichloropropene	ND		ug/l	2.5	0.70
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

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/31/19 06:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1326239-5					
1,3-Dichlorobenzene	ND		ug/l	2.5	0.70
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
Dibromomethane	ND		ug/l	5.0	1.0
1,2,3-Trichloropropane	ND		ug/l	2.5	0.70
Acrylonitrile	ND		ug/l	5.0	1.5
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
Vinyl acetate	ND		ug/l	5.0	1.0
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
2,2-Dichloropropane	ND		ug/l	2.5	0.70
1,2-Dibromoethane	ND		ug/l	2.0	0.65
1,3-Dichloropropane	ND		ug/l	2.5	0.70
1,1,1,2-Tetrachloroethane	ND		ug/l	2.5	0.70
Bromobenzene	ND		ug/l	2.5	0.70
n-Butylbenzene	ND		ug/l	2.5	0.70
sec-Butylbenzene	ND		ug/l	2.5	0.70
tert-Butylbenzene	ND		ug/l	2.5	0.70
o-Chlorotoluene	ND		ug/l	2.5	0.70
p-Chlorotoluene	ND		ug/l	2.5	0.70
1,2-Dibromo-3-chloropropane	ND		ug/l	2.5	0.70

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260C
Analytical Date: 12/31/19 06:00
Analyst: MM

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 01-05 Batch: WG1326239-5					
Hexachlorobutadiene	ND		ug/l	2.5	0.70
Isopropylbenzene	ND		ug/l	2.5	0.70
p-Isopropyltoluene	ND		ug/l	2.5	0.70
Naphthalene	ND		ug/l	2.5	0.70
n-Propylbenzene	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
1,3,5-Trimethylbenzene	ND		ug/l	2.5	0.70
1,2,4-Trimethylbenzene	ND		ug/l	2.5	0.70
1,4-Dioxane	ND		ug/l	250	61.
Freon-113	ND		ug/l	2.5	0.70
p-Diethylbenzene	ND		ug/l	2.0	0.70
p-Ethyltoluene	ND		ug/l	2.0	0.70
1,2,4,5-Tetramethylbenzene	ND		ug/l	2.0	0.54
Ethyl ether	ND		ug/l	2.5	0.70
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.70

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	102		70-130
4-Bromofluorobenzene	118		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

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 Batch: WG1326239-3 WG1326239-4								
Methylene chloride	98		99		70-130	1		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		100		70-130	0		20
Carbon tetrachloride	96		98		63-132	2		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	90		88		63-130	2		20
1,1,2-Trichloroethane	100		99		70-130	1		20
Tetrachloroethene	95		94		70-130	1		20
Chlorobenzene	98		97		75-130	1		20
Trichlorofluoromethane	96		97		62-150	1		20
1,2-Dichloroethane	110		110		70-130	0		20
1,1,1-Trichloroethane	98		100		67-130	2		20
Bromodichloromethane	97		98		67-130	1		20
trans-1,3-Dichloropropene	100		100		70-130	0		20
cis-1,3-Dichloropropene	100		100		70-130	0		20
1,1-Dichloropropene	100		100		70-130	0		20
Bromoform	91		91		54-136	0		20
1,1,2,2-Tetrachloroethane	100		110		67-130	10		20
Benzene	100		100		70-130	0		20
Toluene	100		100		70-130	0		20
Ethylbenzene	100		100		70-130	0		20
Chloromethane	120		120		64-130	0		20
Bromomethane	100		100		39-139	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

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 Batch: WG1326239-3 WG1326239-4								
Vinyl chloride	110		110		55-140	0		20
Chloroethane	110		110		55-138	0		20
1,1-Dichloroethene	93		96		61-145	3		20
trans-1,2-Dichloroethene	96		98		70-130	2		20
Trichloroethene	97		99		70-130	2		20
1,2-Dichlorobenzene	92		94		70-130	2		20
1,3-Dichlorobenzene	94		95		70-130	1		20
1,4-Dichlorobenzene	93		93		70-130	0		20
Methyl tert butyl ether	100		100		63-130	0		20
p/m-Xylene	95		90		70-130	5		20
o-Xylene	90		90		70-130	0		20
cis-1,2-Dichloroethene	96		97		70-130	1		20
Dibromomethane	94		94		70-130	0		20
1,2,3-Trichloropropane	110		110		64-130	0		20
Acrylonitrile	120		120		70-130	0		20
Styrene	90		90		70-130	0		20
Dichlorodifluoromethane	79		80		36-147	1		20
Acetone	130		130		58-148	0		20
Carbon disulfide	100		100		51-130	0		20
2-Butanone	120		120		63-138	0		20
Vinyl acetate	**140**	Q	**140**	Q	70-130	0		20
4-Methyl-2-pentanone	110		110		59-130	0		20
2-Hexanone	110		110		57-130	0		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

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 Batch: WG1326239-3 WG1326239-4								
Bromochloromethane	90		90		70-130	0		20
2,2-Dichloropropane	100		100		63-133	0		20
1,2-Dibromoethane	93		92		70-130	1		20
1,3-Dichloropropane	100		100		70-130	0		20
1,1,1,2-Tetrachloroethane	92		92		64-130	0		20
Bromobenzene	94		94		70-130	0		20
n-Butylbenzene	110		110		53-136	0		20
sec-Butylbenzene	100		100		70-130	0		20
tert-Butylbenzene	97		98		70-130	1		20
o-Chlorotoluene	100		100		70-130	0		20
p-Chlorotoluene	99		100		70-130	1		20
1,2-Dibromo-3-chloropropane	89		89		41-144	0		20
Hexachlorobutadiene	100		100		63-130	0		20
Isopropylbenzene	100		100		70-130	0		20
p-Isopropyltoluene	98		100		70-130	2		20
Naphthalene	99		100		70-130	1		20
n-Propylbenzene	100		100		69-130	0		20
1,2,3-Trichlorobenzene	100		100		70-130	0		20
1,2,4-Trichlorobenzene	96		99		70-130	3		20
1,3,5-Trimethylbenzene	100		110		64-130	10		20
1,2,4-Trimethylbenzene	100		110		70-130	10		20
1,4-Dioxane	92		94		56-162	2		20
Freon-113	98		100		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961789

Report Date: 03/25/20

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 Batch: WG1326239-3 WG1326239-4								
p-Diethylbenzene	95		98		70-130	3		20
p-Ethyltoluene	95		98		70-130	3		20
1,2,4,5-Tetramethylbenzene	120		130		70-130	8		20
Ethyl ether	100		100		59-134	0		20
trans-1,4-Dichloro-2-butene	120		110		70-130	9		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	106		106		70-130
Toluene-d8	106		103		70-130
4-Bromofluorobenzene	104		106		70-130
Dibromofluoromethane	97		99		70-130

METALS

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-01
Client ID: MW4I
Sample Location: 115 WALL ST, VALHALLA, NY
Sample Depth:
Matrix: Water

Date Collected: 12/27/19 12:55
Date Received: 12/27/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.022		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 20:39	EPA 3005A	1,6010D	LC
Iron, Total	19.5		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 20:39	EPA 3005A	1,6010D	LC
Manganese, Total	1.31		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 20:39	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Lab Number: L1961789
Project Number: VALHALLA 1501
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-02
Client ID: MWP1
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/27/19 12:05
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.129		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:25	EPA 3005A	1,6010D	LC
Iron, Total	134		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 21:25	EPA 3005A	1,6010D	LC
Manganese, Total	1.70		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:25	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-03
Client ID: MWP2
Sample Location: 115 WALL ST, VALHALLA, NY
Sample Depth:
Matrix: Water
Date Collected: 12/27/19 10:50
Date Received: 12/27/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.002	J	mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:34	EPA 3005A	1,6010D	LC
Iron, Total	62.5		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 21:34	EPA 3005A	1,6010D	LC
Manganese, Total	5.15		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:34	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-04
Client ID: MW3D
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/27/19 09:35
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.003	J	mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:38	EPA 3005A	1,6010D	LC
Iron, Total	4.10		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 21:38	EPA 3005A	1,6010D	LC
Manganese, Total	0.135		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:38	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Lab Number: L1961789
Project Number: VALHALLA 1501
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-05
Client ID: MW3S
Sample Location: 115 WALL ST, VALHALLA, NY
Date Collected: 12/27/19 08:40
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Chromium, Total	0.008	J	mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:42	EPA 3005A	1,6010D	LC
Iron, Total	172		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 21:42	EPA 3005A	1,6010D	LC
Manganese, Total	12.6		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 21:42	EPA 3005A	1,6010D	LC

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-05 Batch: WG1326095-1										
Chromium, Total	ND		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 20:27	1,6010D	LC
Iron, Total	ND		mg/l	0.050	0.009	1	12/31/19 11:17	01/02/20 20:27	1,6010D	LC
Manganese, Total	ND		mg/l	0.010	0.002	1	12/31/19 11:17	01/02/20 20:27	1,6010D	LC

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961789

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 Batch: WG1326095-2								
Chromium, Total	104		-		80-120	-		
Iron, Total	111		-		80-120	-		
Manganese, Total	98		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1326095-3 QC Sample: L1961789-01 Client ID: MW4I												
Chromium, Total	0.022	0.2	0.229	104		-	-		75-125	-		20
Iron, Total	19.5	1	20.6	110		-	-		75-125	-		20
Manganese, Total	1.31	0.5	1.83	104		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961789

Report Date: 03/25/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-05 QC Batch ID: WG1326095-4 QC Sample: L1961789-01 Client ID: MW4I						
Chromium, Total	0.022	0.022	mg/l	1		20
Iron, Total	19.5	19.8	mg/l	2		20
Manganese, Total	1.31	1.34	mg/l	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-01
Client ID: MW4I
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/27/19 12:55
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	68.		mg/l	1.0	0.20	1	-	12/30/19 21:26	121,4500CL-E	TL
Total Organic Carbon	6.8		mg/l	0.50	0.11	1	-	01/02/20 09:16	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-02
Client ID: MWP1
Sample Location: 115 WALL ST, VALHALLA, NY

Sample Depth:
Matrix: Water

Date Collected: 12/27/19 12:05
Date Received: 12/27/19
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	71.		mg/l	1.0	0.20	1	-	12/30/19 21:28	121,4500CL-E	TL
Total Organic Carbon	9.8		mg/l	0.50	0.11	1	-	01/02/20 09:53	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-03
Client ID: MWP2
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/27/19 10:50
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	240		mg/l	10	2.0	10	-	12/30/19 20:18	121,4500CL-E	TL
Total Organic Carbon	2.9		mg/l	0.50	0.11	1	-	01/02/20 10:30	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-04
Client ID: MW3D
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/27/19 09:35
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	100		mg/l	10	2.0	10	-	12/30/19 20:20	121,4500CL-E	TL
Total Organic Carbon	1.1		mg/l	0.50	0.11	1	-	01/02/20 11:01	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

SAMPLE RESULTS

Lab ID: L1961789-05
Client ID: MW3S
Sample Location: 115 WALL ST, VALHALLA, NY

Date Collected: 12/27/19 08:40
Date Received: 12/27/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Chloride	1700		mg/l	100	20.	100	-	12/30/19 21:30	121,4500CL-E	TL
Total Organic Carbon	18		mg/l	5.0	1.1	10	-	01/02/20 11:36	1,9060A	DW

Project Name: VALHALLA
Project Number: VALHALLA 1501
Lab Number: L1961789
Report Date: 03/25/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1325855-1										
Chloride	0.56	J	mg/l	1.0	0.20	1	-	12/30/19 19:45	121,4500CL-E	TL
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1326306-1										
Total Organic Carbon	ND		mg/l	0.50	0.11	1	-	01/02/20 08:13	1,9060A	DW

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961789

Report Date: 03/25/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1325855-2								
Chloride	100		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1326306-2								
Total Organic Carbon	100		-		90-110	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1325855-4 QC Sample: L1961710-01 Client ID: MS Sample												
Chloride	72.	20	84	60		-	-		58-140	-		7
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1326306-4 QC Sample: L1961789-04 Client ID: MW3D												
Total Organic Carbon	1.1	4	5.3	105		-	-		80-120	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA 1501

Lab Number: L1961789

Report Date: 03/25/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1325855-3 QC Sample: L1961710-01 Client ID: DUP Sample						
Chloride	72.	73	mg/l	1		7
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1326306-3 QC Sample: L1961789-03 Client ID: MWP2						
Total Organic Carbon	2.9	3.0	mg/l	3		20

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

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(*)
L1961789-01A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-01B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-01C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-01D	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-01E	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-01F	Plastic 120ml unpreserved	A	7	7	2.2	Y	Absent		CL-4500(28)
L1961789-01G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1961789-02A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-02B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-02C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-02D	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-02E	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-02F	Plastic 120ml unpreserved	A	7	7	2.2	Y	Absent		CL-4500(28)
L1961789-02G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		CR-TI(180),MN-TI(180),FE-TI(180)
L1961789-03A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-03B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-03C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-03D	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-03E	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-03F	Plastic 120ml unpreserved	A	7	7	2.2	Y	Absent		CL-4500(28)
L1961789-03G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1961789-04A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-04B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA 1501

Lab Number: L1961789
Report Date: 03/25/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1961789-04C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-04D	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-04E	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-04F	Plastic 120ml unpreserved	A	7	7	2.2	Y	Absent		CL-4500(28)
L1961789-04G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)
L1961789-05A	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-05B	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-05C	Vial HCl preserved	A	NA		2.2	Y	Absent		NYTCL-8260(14)
L1961789-05D	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-05E	Vial H2SO4 preserved	A	NA		2.2	Y	Absent		TOC-9060(28)
L1961789-05F	Plastic 120ml unpreserved	A	7	7	2.2	Y	Absent		CL-4500(28)
L1961789-05G	Plastic 250ml HNO3 preserved	A	<2	<2	2.2	Y	Absent		CR-TI(180),FE-TI(180),MN-TI(180)

*Values in parentheses indicate holding time in days

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

GLOSSARY

Acronyms

DL - 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

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.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

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.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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 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.

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).

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1961789
Project Number:	VALHALLA 1501	**Report Date:**	03/25/20

REFERENCES

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

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

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 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; 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.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-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**, 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 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: 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 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, 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, Fe, Pb, Mn, Ni, K, Se, Ag, Na, 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: 12/27/19

ALPHA Job #: L1961789

Client Information
Client: Apex
Address: 120 Wilbur
Bohemia NY
Phone: 631-567 1577
Fax:
Email: Joe.Gavin@Apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Wall St Valhalla NY
Project #: Valhalla 1501
(Use Project name as Project #) ☐
Project Manager: Joe Gavin
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

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

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

Billing Information
☑ Same as Client Info
PO #

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

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	TCL VOC	Metals	Chlorides	TOC	Sample Specific Comments	Total Bottle
61789-01	MW 4I	12/27/19	1235	W	JF	X	X	X	X		
-02	MW P1		1205	W	JF	X	X	X	X		
-03	MW P2		1050	W	JF	X	X	X	X		
-04	MW 3D		935	W	JF	X	X	X	X		
-05	MW 33		840	W	JF	X	X	X	X		

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

	TCL VOC	Metals	Chlorides	TOC				
Container Type								
Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
	12/27/19 1320	R Santos AAL	12/27/19 1320
R Santos AAL	12/27/19 1500		12/27/19 1655
	12-27-19 2115		12/27/19 2200

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)

ANALYTICAL REPORT

Lab Number:	L1960300
Client:	APEX Companies, LLC 120-D Wilbur Place Bohemia, NY 11716
ATTN:	Joe Gavin
Phone:	(631) 567-1777
Project Name:	VALHALLA
Project Number:	VALHALLA
Report Date:	01/22/20

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: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1960300-01	FIELD BLANK	FIELD BLANK	115 WALL STREET, NY	12/16/19 10:00	12/16/19
L1960300-02	MW-3I	WATER	115 WALL STREET, NY	12/16/19 11:30	12/16/19
L1960300-03	MW-4S	WATER	115 WALL STREET, NY	12/16/19 12:50	12/16/19
L1960300-04	MW-1S	WATER	115 WALL STREET, NY	12/16/19 14:10	12/16/19
L1960300-05	MW-1I	WATER	115 WALL STREET, NY	12/16/19 15:00	12/16/19
L1960300-06	DUP-121619	WATER	115 WALL STREET, NY	12/16/19 14:20	12/16/19

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

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. 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 Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data 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.

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 Alpha Project Manager 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 Project Management at 800-624-9220 with any questions.

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

Case Narrative (continued)

Report Submission

January 22, 2020: Final report.

December 27, 2019: This is a preliminary report.

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

Perfluorinated Alkyl Acids by Isotope Dilution

L1960300-03, -05, and -06: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

WG1323894-6 and WG1323894-7: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

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: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 01/22/20

ORGANICS

SEMIVOLATILES

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-01
Client ID: FIELD BLANK
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 10:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Field Blank
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 14:00
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-01
Client ID: FIELD BLANK
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 10:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Field Blank
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 15:08
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.75	0.358	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.75	0.347	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.75	0.209	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.75	0.288	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.75	0.198	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.75	0.330	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.75	0.207	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.75	1.17	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.75	0.604	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.75	0.274	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.75	0.442	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.75	0.267	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.75	1.06	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	0.618	J	ng/l	1.75	0.568	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.75	0.228	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.75	0.860	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.75	0.509	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.716	J	ng/l	1.75	0.705	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.75	0.326	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.75	0.287	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.75	0.218	1
PFOA/PFOS, Total	ND		ng/l	1.75	0.207	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-01 Date Collected: 12/16/19 10:00

Client ID: FIELD BLANK Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	108		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	101		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	97		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	100		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	105		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	104		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	99		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	98		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	112		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	75		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	36		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	99		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	90		33-143

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-02
Client ID: MW-3I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 11:30
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 14:28
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	171.		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	44		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-02
Client ID: MW-3I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 11:30
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 17:54
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	23.8		ng/l	10.0	2.04	1
Perfluoropentanoic Acid (PFPeA)	6.30	J	ng/l	10.0	1.98	1
Perfluorobutanesulfonic Acid (PFBS)	3.18	J	ng/l	10.0	1.19	1
Perfluorohexanoic Acid (PFHxA)	5.06	J	ng/l	10.0	1.64	1
Perfluoroheptanoic Acid (PFHpA)	2.68	J	ng/l	10.0	1.13	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	10.0	1.88	1
Perfluorooctanoic Acid (PFOA)	5.60	J	ng/l	10.0	1.18	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	10.0	6.66	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	10.0	3.44	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	10.0	1.56	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	10.0	2.52	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	10.0	1.52	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	10.0	6.06	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	5.30	J	ng/l	10.0	3.24	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	10.0	1.30	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	10.0	4.90	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	10.0	2.90	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	4.98	J	ng/l	10.0	4.02	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	10.0	1.86	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	10.0	1.64	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	10.0	1.24	1
PFOA/PFOS, Total	5.60	J	ng/l	10.0	1.18	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-02 Date Collected: 12/16/19 11:30

Client ID: MW-3I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	93		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	112		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	97		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	122		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	106		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	118		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	84		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	105		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	18		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	94		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	91		33-143

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-03
Client ID: MW-4S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 12:50
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 14:55
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	214.		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-03
Client ID: MW-4S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 12:50
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 18:10
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	6.36		ng/l	1.77	0.362	1
Perfluoropentanoic Acid (PFPeA)	5.15		ng/l	1.77	0.351	1
Perfluorobutanesulfonic Acid (PFBS)	1.58	J	ng/l	1.77	0.211	1
Perfluorohexanoic Acid (PFHxA)	3.58		ng/l	1.77	0.291	1
Perfluoroheptanoic Acid (PFHpA)	2.15		ng/l	1.77	0.200	1
Perfluorohexanesulfonic Acid (PFHxS)	0.851	J	ng/l	1.77	0.333	1
Perfluorooctanoic Acid (PFOA)	4.27		ng/l	1.77	0.209	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.77	1.18	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.77	0.610	1
Perfluorononanoic Acid (PFNA)	0.582	J	ng/l	1.77	0.276	1
Perfluorooctanesulfonic Acid (PFOS)	2.72		ng/l	1.77	0.447	1
Perfluorodecanoic Acid (PFDA)	0.518	J	ng/l	1.77	0.270	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.77	1.07	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.77	0.574	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.77	0.230	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.77	0.869	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.77	0.514	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.77	0.713	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.77	0.330	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.77	0.290	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.77	0.220	1
PFOA/PFOS, Total	6.99		ng/l	1.77	0.209	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-03 Date Collected: 12/16/19 12:50

Client ID: MW-4S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	88		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	90		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	90		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	70		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	81		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	244		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	96		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	84		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**194**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	77		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	95		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	30		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	72		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	82		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		33-143

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-04
Client ID: MW-1S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:10
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 16:19
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	602.		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-04
Client ID: MW-1S
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:10
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 19:00
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	15.9		ng/l	2.13	0.434	1
Perfluoropentanoic Acid (PFPeA)	11.7		ng/l	2.13	0.421	1
Perfluorobutanesulfonic Acid (PFBS)	4.25		ng/l	2.13	0.253	1
Perfluorohexanoic Acid (PFHxA)	8.75		ng/l	2.13	0.349	1
Perfluoroheptanoic Acid (PFHpA)	5.71		ng/l	2.13	0.240	1
Perfluorohexanesulfonic Acid (PFHxS)	4.60		ng/l	2.13	0.400	1
Perfluorooctanoic Acid (PFOA)	16.3		ng/l	2.13	0.251	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.13	1.42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.13	0.732	1
Perfluorononanoic Acid (PFNA)	1.79	J	ng/l	2.13	0.332	1
Perfluorooctanesulfonic Acid (PFOS)	8.03		ng/l	2.13	0.536	1
Perfluorodecanoic Acid (PFDA)	0.485	J	ng/l	2.13	0.323	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.13	1.29	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.13	0.689	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.13	0.276	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.13	1.04	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.13	0.617	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	0.962	J	ng/l	2.13	0.855	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.13	0.396	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.13	0.348	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.13	0.264	1
PFOA/PFOS, Total	24.3		ng/l	2.13	0.251	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-04 Date Collected: 12/16/19 14:10

Client ID: MW-1S Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	101		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	101		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	244		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	90		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	148		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	47		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	72		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	30		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	53		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	60		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	58		33-143

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-05
Client ID: MW-1I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 15:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 16:49
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	697.		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	43		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-05
Client ID: MW-1I
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 15:00
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 19:16
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	16.9		ng/l	1.86	0.380	1
Perfluoropentanoic Acid (PFPeA)	11.4		ng/l	1.86	0.369	1
Perfluorobutanesulfonic Acid (PFBS)	2.88		ng/l	1.86	0.222	1
Perfluorohexanoic Acid (PFHxA)	7.65		ng/l	1.86	0.306	1
Perfluoroheptanoic Acid (PFHpA)	4.40		ng/l	1.86	0.210	1
Perfluorohexanesulfonic Acid (PFHxS)	1.22	J	ng/l	1.86	0.351	1
Perfluorooctanoic Acid (PFOA)	8.45		ng/l	1.86	0.220	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.86	1.24	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.86	0.642	1
Perfluorononanoic Acid (PFNA)	0.332	J	ng/l	1.86	0.291	1
Perfluorooctanesulfonic Acid (PFOS)	1.58	J	ng/l	1.86	0.470	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.284	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	1.13	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	0.604	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	0.242	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.86	0.914	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.86	0.541	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	0.750	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.347	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	0.305	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	0.231	1
PFOA/PFOS, Total	10.0	J	ng/l	1.86	0.220	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-05 Date Collected: 12/16/19 15:00

Client ID: MW-1I Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	112		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	68		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**308**	Q	1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**207**	Q	7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	35		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	73		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		33-143

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-06
Client ID: DUP-121619
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:20
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 17:19
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	446.		ng/l	150	33.9	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	48		15-110

Project Name: VALHALLA
Project Number: VALHALLA
Lab Number: L1960300
Report Date: 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-06
Client ID: DUP-121619
Sample Location: 115 WALL STREET, NY

Date Collected: 12/16/19 14:20
Date Received: 12/16/19
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 19:33
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	14.6		ng/l	1.90	0.388	1
Perfluoropentanoic Acid (PFPeA)	11.9		ng/l	1.90	0.376	1
Perfluorobutanesulfonic Acid (PFBS)	3.88		ng/l	1.90	0.226	1
Perfluorohexanoic Acid (PFHxA)	8.94		ng/l	1.90	0.312	1
Perfluoroheptanoic Acid (PFHpA)	5.56		ng/l	1.90	0.214	1
Perfluorohexanesulfonic Acid (PFHxS)	4.03		ng/l	1.90	0.357	1
Perfluorooctanoic Acid (PFOA)	15.4		ng/l	1.90	0.224	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.90	1.27	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.90	0.654	1
Perfluorononanoic Acid (PFNA)	1.75	J	ng/l	1.90	0.296	1
Perfluorooctanesulfonic Acid (PFOS)	7.80		ng/l	1.90	0.479	1
Perfluorodecanoic Acid (PFDA)	0.342	J	ng/l	1.90	0.289	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.90	1.15	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.90	0.616	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.90	0.247	1
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	1.90	0.932	1
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	1.90	0.551	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.90	0.764	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.90	0.354	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.90	0.311	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.90	0.236	1
PFOA/PFOS, Total	23.2		ng/l	1.90	0.224	1

Project Name: VALHALLA **Lab Number:** L1960300

Project Number: VALHALLA **Report Date:** 01/22/20

SAMPLE RESULTS

Lab ID: L1960300-06 Date Collected: 12/16/19 14:20

Client ID: DUP-121619 Date Received: 12/16/19

Sample Location: 115 WALL STREET, NY Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	98		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	88		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	87		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**251**	Q	1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	89		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	154		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	66		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	35		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	65		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	72		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	64		33-143

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270D-SIM
Analytical Date: 12/23/19 08:21
Analyst: PS

Extraction Method: EPA 3510C
Extraction Date: 12/20/19 05:15

Parameter	Result	Qualifier	Units	RL	MDL
1,4 Dioxane by 8270D-SIM - Mansfield Lab for sample(s): 01-06 Batch: WG1323073-1					
1,4-Dioxane	ND		ng/l	150	33.9

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,4-Dioxane-d8	25		15-110

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 14:18
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1323894-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.408
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.396
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	0.384	J	ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	1.33
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.688
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	1.21
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
Perfluorodecanesulfonic Acid (PFDS)	ND		ng/l	2.00	0.980
Perfluorooctanesulfonamide (FOSA)	ND		ng/l	2.00	0.580
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
PFOA/PFOS, Total	ND		ng/l	2.00	0.236

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 01/16/20 14:18
Analyst: JW

Extraction Method: ALPHA 23528
Extraction Date: 12/23/19 10:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 01-06 Batch: WG1323894-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	112		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	96		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	98		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	96		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	101		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	92		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	111		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	74		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	101		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	42		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	79		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	95		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	88		33-143

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960300

Report Date: 01/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated sample(s): 01-06		Batch: WG1323073-2 WG1323073-3					
1,4-Dioxane	108		108		40-140	0		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	25		24		15-110

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960300

Report Date: 01/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1323894-2 WG1323894-3								
Perfluorobutanoic Acid (PFBA)	101		107		67-148	6		30
Perfluoropentanoic Acid (PFPeA)	103		109		63-161	6		30
Perfluorobutanesulfonic Acid (PFBS)	96		102		65-157	6		30
Perfluorohexanoic Acid (PFHxA)	101		109		69-168	8		30
Perfluoroheptanoic Acid (PFHpA)	100		110		58-159	10		30
Perfluorohexanesulfonic Acid (PFHxS)	104		112		69-177	7		30
Perfluorooctanoic Acid (PFOA)	104		111		63-159	7		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	113		127		49-187	12		30
Perfluoroheptanesulfonic Acid (PFHpS)	108		118		61-179	9		30
Perfluorononanoic Acid (PFNA)	102		105		68-171	3		30
Perfluorooctanesulfonic Acid (PFOS)	102		105		52-151	3		30
Perfluorodecanoic Acid (PFDA)	106		111		63-171	5		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	123		109		56-173	12		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	119		132		60-166	10		30
Perfluoroundecanoic Acid (PFUnA)	102		112		60-153	9		30
Perfluorodecanesulfonic Acid (PFDS)	92		111		38-156	19		30
Perfluorooctanesulfonamide (FOSA)	96		101		46-170	5		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		124		45-170	10		30
Perfluorododecanoic Acid (PFDoA)	103		111		67-153	7		30
Perfluorotridecanoic Acid (PFTrDA)	110		120		48-158	9		30
Perfluorotetradecanoic Acid (PFTA)	104		110		59-182	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960300

Report Date: 01/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 Batch: WG1323894-2 WG1323894-3								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		99		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	108		107		16-173
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	91		92		31-159
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	93		91		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		93		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		91		47-153
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		93		36-149
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		104		1-244
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		96		34-146
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		89		42-146
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		86		38-144
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	105		113		7-170
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		66		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		92		40-144
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	38		36		1-87
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	76		73		23-146
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	90		89		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	89		90		33-143

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated sample(s): 01-06	QC Batch ID: WG1323073-4	WG1323073-5	QC Sample: L1960300-03	Client ID: MW-4S							
1,4-Dioxane	214	4630	5160	107		5090	105		40-140	1		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,4-Dioxane-d8	45		43		15-110

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA

Project Number: VALHALLA

Lab Number: L1960300

Report Date: 01/22/20

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1323894-6 WG1323894-7 QC Sample: L1960300-03 Client ID: MW-4S												
Perfluorobutanoic Acid (PFBA)	6.36	35	44.3	109		45.0	108		67-148	2		30
Perfluoropentanoic Acid (PFPeA)	5.15	35	44.9	114		45.5	113		63-161	1		30
Perfluorobutanesulfonic Acid (PFBS)	1.58J	31	34.1	110		36.4	115		65-157	7		30
Perfluorohexanoic Acid (PFHxA)	3.58	35	42.2	110		42.5	109		69-168	1		30
Perfluoroheptanoic Acid (PFHpA)	2.15	35	41.2	112		41.4	110		58-159	0		30
Perfluorohexanesulfonic Acid (PFHxS)	0.851J	31.9	33.3	104		35.7	110		69-177	7		30
Perfluorooctanoic Acid (PFOA)	4.27	35	44.9	116		45.2	115		63-159	1		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	33.2	42.4	128		42.0	124		49-187	1		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	33.2	37.3	112		35.7	105		61-179	4		30
Perfluorononanoic Acid (PFNA)	0.582J	35	40.1	115		41.4	116		68-171	3		30
Perfluorooctanesulfonic Acid (PFOS)	2.72	32.4	33.8	96		33.5	93		52-151	1		30
Perfluorodecanoic Acid (PFDA)	0.518J	35	38.1	109		41.1	115		63-171	8		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	33.6	43.0	128		46.2	135		56-173	7		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	35	43.4	124		40.5	113		60-166	7		30
Perfluoroundecanoic Acid (PFUnA)	ND	35	37.1	106		39.0	109		60-153	5		30
Perfluorodecanesulfonic Acid (PFDS)	ND	33.8	36.5	108		36.9	107		38-156	1		30
Perfluorooctanesulfonamide (FOSA)	ND	35	38.8	111		43.0	120		46-170	10		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	35	42.0	120		37.5	105		45-170	11		30
Perfluorododecanoic Acid (PFDoA)	ND	35	37.7	108		38.2	107		67-153	1		30
Perfluorotridecanoic Acid (PFTrDA)	ND	35	39.4	113		40.6	114		48-158	3		30
Perfluorotetradecanoic Acid (PFTA)	ND	35	37.2	106		40.9	115		59-182	9		30

Matrix Spike Analysis

Batch Quality Control

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1323894-6 WG1323894-7 QC Sample: L1960300-03 Client ID: MW-4S

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	**179**	Q	**179**	Q	7-170
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	233		231		1-244
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	66		76		23-146
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	65		70		1-181
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		85		40-144
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		79		38-144
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	68		71		21-145
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	77		81		30-139
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		96		47-153
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	79		78		24-161
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	70		63		33-143
Perfluoro[13C4]Butanoic Acid (MPFBA)	81		88		2-156
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	84		92		16-173
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	24		19		1-87
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		96		42-146
Perfluoro[13C8]Octanoic Acid (M8PFOA)	80		87		36-149
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	89		94		34-146
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89		84		31-159

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1960300-01A	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-01B	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-01C	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-02A	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-02B	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-02C	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-02D	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03A	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03A1	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03A2	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03B	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03B1	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03B2	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-03C	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03C1	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03C2	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03D	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03D1	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-03D2	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-04A	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-04B	Amber 250ml unpreserved	A	7	7	4.2	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-04C	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1960300-04D	Plastic 250ml unpreserved	A	NA		4.2	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-05A	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-05B	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-05C	Plastic 250ml unpreserved	B	NA		4.0	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-05D	Plastic 250ml unpreserved	B	NA		4.0	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-06A	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-06B	Amber 250ml unpreserved	B	7	7	4.0	Y	Absent		A2-1,4-DIOXANE-SIM(7)
L1960300-06C	Plastic 250ml unpreserved	B	NA		4.0	Y	Absent		A2-NY-537-ISOTOPE(14)
L1960300-06D	Plastic 250ml unpreserved	B	NA		4.0	Y	Absent		A2-NY-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name: VALHALLA
Project Number: VALHALLA

Lab Number: L1960300
Report Date: 01/22/20

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

GLOSSARY

Acronyms

DL	- 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 limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
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.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
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. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
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.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

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.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

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 Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

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 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.

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).

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

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

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

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

Data Qualifiers

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.

Report Format: DU Report with 'J' Qualifiers

Project Name:	VALHALLA	**Lab Number:**	L1960300
Project Number:	VALHALLA	**Report Date:**	01/22/20

REFERENCES

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

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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 624/624.1: m/p-xylene, o-xylene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; 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, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-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**, 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 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: 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 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, 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, Fe, Pb, Mn, Ni, K, Se, Ag, Na, 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 of

Date Rec'd in Lab: 12/16/19

ALPHA Job #: L1960300

Client Information
Client: Apex
Address: 120-D Wilbur Place
Phone: 631-567-1777
Fax:
Email: Joe.Gavin@apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Wall Street, NY
Project #: Valhalla
(Use Project name as Project #) ☐ Valhalla 1501
Project Manager: Joe Gavin
ALPHAQuote #:

Turn-Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

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

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

Billing Information
☐ Same as Client Info
PO #

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:

Please specify Metals or TAL.

ANALYSIS

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	TCL VOC	Metals (Fe, Mn, Cr)	Chlorides	TOC	PFAS	1,4-Dioxane	Total Bottle	Sample Specific Comments
~~60215-01~~	Field blank	12/16/19	19:00	W	JQ	x	x	x	x	x	x		
60300-02	3I	12/16/19	11:30	W	JQ	x	x	x	x	x	x		
-03	4S	12/16/19	12:50	W	JQ	x	x	x	x	x	x		
-04	4S-MS	12/16/19	12:55	W	JQ	x	x	x	x	x	x		
-05	4S-MSD	12/16/19	13:00	W	JQ	x	x	x	x	x	x		
-06	MW-1S	12/16/19	14:10	W	JQ	x	x	x	x	x	x		
-07	MW-1I	12/16/19	15:00	W	JQ	x	x	x	x	x	x		
-08	DUP-121619	12/16/19	14:20	W	JQ	x	x	x	x	x	x		

AR 12/17

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								
Preservative								

Relinquished By:	Date/Time	Received By:	Date/Time
	12/16/19 4:00		12/16/19 16:00
	12/16/19 17:16		12/16/19 17:20
	12/16/19 21:41		12/16/19 21:41

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)

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:

ALPHA Job #:

Client Information
Client: APEX
Address: 120-D Wilbur Place
Phone: 631-567-1777
Fax:
Email: Joe.Gavin@apexcos.com

Project Information
Project Name: Valhalla
Project Location: 115 Mill Street, NY
Project #: Valhalla
(Use Project name as Project #) ☐ Valhalla 1501
Project Manager: Joe Gavin
ALPHAQuote #:

Turn Around Time
Standard ☑ Due Date:
Rush (only if pre approved) ☐ # of Days:

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

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

Billing Information
☒ Same as Client Info
PO #:

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:

Please specify Metals or TAL.

ANALYSIS

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	TCL VOC	Metals (TAL)	Chlorides	TOC	PFAS	1,4-Dioxane	Sample Specific Comments
	Field blank	12/16/19	9:00	W	JQ	x	x	x	x	x	x	
	MW-3I	12/16/19	11:30	W	JQ	x	x	x	x	x	x	
	MW-4S	12/16/19	12:50	W	JQ	x	x	x	x	x	x	
	MW-4S-MS	12/16/19	12:55	W	JQ	x	x	x	x	x	x	Separate Deliverable
	MW-4S-MSD	12/16/19	13:00	W	JQ	x	x	x	x	x	x	
	MW-1S	12/16/19	14:10	W	JQ	x	x	x	x	x	x	
	MW-1I	12/16/19	15:00	W	JQ	x	x	x	x	x	x	
	DUP-121619	12/16/19	14:20	W	JQ	x	x	x	x	x	x	

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	P	P					
Preservative	B	C						

Relinquished By:	Date/Time	Received By:	Date/Time
John Quinn	12/16/19 14:20	[illegible]	12/16/19 16:00

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)

APEX COMPANIES, LLC

Data Usability Summary Report
For Baseline Sampling Event

One Commerce Park Property
115 Wall Street
Valhalla, New York 10595

PREPARED FOR:

Diamond Properties, LLC
330 North Bedford Road
Suite 145
Mount Kisco, New York 10549

April 23, 2020

Apex Companies, LLC
120-D Wilbur Place
Bohemia, New York 11716

APEX

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Data Usability Summary Report for Baseline Sampling Event Site 360054 115 Wall Street, Valhalla, New York

Scope of Work

Environmental samples were collected from the One Commerce Park Site in Valhalla, New York. These samples consisted of groundwater which were collected in December 2019. Only environmental samples collected during baseline sampling were evaluated using the DEC ASP Category B data deliverable for this Data Usability Summary Report. Analytical results were validated, and usability was determined using the following guidelines:

- NYSDEC Analytical Services Protocol (ASP);
- USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic and Inorganic Data Validation, and;
- USEPA and Standard Methods analytical methods.

1.0 Analytical Laboratory

Samples collected were analyzed by Alpha Analytical of Mansfield and Westborough, Massachusetts. Alpha Analytical holds accreditation under New York state ID 11627 and 11148 and the NELAC Institute (TNI) codes TNI00262 and TNI01316.

1.1 Accreditation

Alpha Analytical is accredited by New York state for the analysis of volatile organic compounds (VOCs) by the United States Environmental Protection Agency (EPA) Method 8260C, metals by EPA 6010D, total organic carbon (TOC) by EPA 9060A, and chloride by Standard Methods (SM) 4500-Cl-E.

1.2 Laboratory Data Packages

Laboratory data packages were complete and included cover pages, chain of custodies, sample log-in information, and case narratives. Raw data was included in data packages and was used in the validation process.

1.3 Laboratory Analytical Methods

Groundwater samples for this Data Usability Summary Report were reviewed for the analysis of VOCs by EPA Method 8260C, metals by EPA 6010D, TOC by EPA 9060A, and chloride by SM 4500-Cl-E. Data validation for these analytical methods are included in Section 2.

1.3.1 VOCs

Groundwater samples were analyzed by EPA Method 8260C. Data validation included review of requirements from EPA methods and recommendations from the EPA *National Functional Guidelines for Superfund Organic Methods Review*, January 2017 (CLP Guidance).

1.3.2 Inorganic Analyses

Groundwater samples were analyzed for metals by EPA 6010D, TOC by EPA 9060A, and chloride by SM 4500-Cl-E. Data validation included review of requirements from EPA methods and Standard Methods and recommendations from the EPA National Functional Guidelines for Superfund Inorganic Methods Review, January 2017 (CLP Guidance).

1.4 Data Qualification

Laboratory data may be qualified with the following flags:

- **J** The analyte result is an estimated value.
- **J-** The analyte result is an estimated value and may be biased low.
- **J+** The analyte result is an estimated value and may be biased high.
- **U** The analyte was analyzed for but was not detected over the laboratory detection limit.
- **UJ** The analyte was analyzed for but was not detected over the laboratory detection limit. Due to findings with data quality, the laboratory detection limit may be inaccurate and is an estimated value.
- **R** The analyte result is unusable due to data quality deficiencies.

2.0 Data Validation

The following subsections include data validation for individual Sample Delivery Groups (SDG). Each sample within the SDG was reviewed based on EPA method or Standard Method guidelines, CLP Guidance's and NYSDEC's ASP. Summaries of data validation findings and qualifier verification are included below.

2.1 SDG L1960215

Data validation and review was conducted for groundwater samples within SDG L1960215 in accordance with the EPA National Functional Guidelines for Superfund Organic and Inorganic Methods Review, January 2017, and NYSDEC Analytical Services Protocol. The SDG included four groundwater samples, one field blank, one trip blank, and one field duplicate to be analyzed for VOCs by EPA Method 8260C, metals by EPA 6010D, TOC by EPA 9060A, and chloride by SM 4500-Cl-E. The groundwater samples are listed below.

SDG ID	Sample ID	Matrix	Sample Date	Sample Time
L1960215-01	Field Blank	Water	December 16, 2019	10:00
L1960215-02	MW-3I	Groundwater	December 16, 2019	11:30
L1960215-03	MW-4S	Groundwater	December 16, 2019	12:50
L1960215-04	MW-1S	Groundwater	December 16, 2019	14:10
L1960215-05	MW-1I	Groundwater	December 16, 2019	15:00
L1960215-06	DUP-121619	Groundwater	December 16, 2019	14:20
L1960215-07	Trip Blank	Water	December 16, 2019	00:00

Samples were received within twenty-four hours of sampling by the analytical laboratory, Alpha Analytical. As indicated by the analytical laboratory sample delivery group summary: the cooler temperatures upon receipt were 4.2^{0}C and 4.0^{0}C, custody seals were not utilized, and containers were accurately labeled and reflected the chain of custody. Headspace in volatile organic analysis (VOA) water containers was not noted and samples are assumed to be within compliance. The trip blank was received by the laboratory but was not included on the chain of custody. At the request of Apex, the sample was logged in and analyzed for VOCs by 8260C.

2.1.1 VOCs

Holding Times

Samples were received below 6^{0}C and were analyzed within the method holding time limit of 14 days for preserved water without headspace. Analysis for VOCs was performed between four and five days from sample collection. Groundwater samples were preserved with hydrochloric acid (HCl) to a pH<2, which was verified by the laboratory after analysis.

Instrument Performance Check

Bromofluorobenzene (BFB) was evaluated for mass spectra requirements and frequency to ensure adequate instrument performance. Four sequences and subsequently four BFB standards were analyzed for samples included in SDG L1960215. This includes two calibration sequences and two environmental sample sequences. BFB tune checks were completed less than 12 hours before the final sample injection. All BFB tunes were within instrument and CLP guidance requirements.

Initial Calibration

Two initial calibrations were used to quantitate VOC data for SDG L1960215. The first calibration was performed on November 27, 2019 and was used to quantitate data for environmental samples and associated quality control. A second calibration was performed on December 19, 2019 and was used to quantitate the trip blank data and associated quality control samples.

Both calibration curves included at least five calibration points, were performed prior to ICVs, samples and blanks, and were within twelve hours of a BFB check standard. Relative Response Factors (RRF) and Percent Relative Standard Deviations (%RSD) were calculated for each analyte and surrogate. The minimum RRF and %RSD for target analytes were within control limits as stated in Table 4 of the EPA *National Functional Guidelines for Superfund Organic Methods Review*, January 2017. However, a *Q flag was noted for bromomethane and iodomethane for ICAL 16379 and all RRFs shown were not used in the %RSD calculation. Results for these analytes are considered estimated; however, only trip blank data is affected.

Initial Calibration Verification

A second source initial calibration verification was analyzed after the calibrations. The RRF for target analytes and surrogate analytes were generally above minimums and below the maximum %D as presented in the CLP Guidance. For the initial calibration verification associated with ICAL 16326 was outside of the control limit for chloromethane, bromomethane, and cis-1,3-dichloropropene. Groundwater results for wells MW-1I, MW-1S, MW-3I, and MW-4S were not detected for chloromethane, bromomethane, and cis-1,3-dichloropropene and results are 'UJ' flagged.

Continuing Calibration Verification

Continuing calibration verifications (CCVs) were evaluated to determine instrument performance and calibration validity during each analytical run. Continuing calibration verification standards were analyzed at the beginning of each analytical run for environmental samples. Closing CCVs were not analyzed per EPA Method 8260C.

The RRF for target analytes and surrogate analytes were generally above minimums and below the maximum %D as presented in the CLP Guidance. For the continuing calibration verification analyzed on 12/20/2019 at 16:47 and associated with ICAL 16326, dichlorodifluoromethane, chloromethane, vinyl chloride, and bromomethane were out of the maximum %D as presented in the CLP guidance. Groundwater results for wells MW-1I, MW-1S, MW-3I, and MW-4S were not detected for chloromethane, bromomethane, and cis-1,3-dichloropropene and results are 'UJ' flagged.

Blanks

Two method blanks (one per analytical batch), one field blank, and one trip blank were analyzed by EPA Method 8260C to assess possible contamination from the laboratory or the field. There were no detections of qualifier-ion confirmed target analytes in any blanks associated with this SDG.

Surrogates

The percent recoveries of surrogate compounds were evaluated to determine method and instrument performance. Surrogate recoveries for environmental and quality control samples were within laboratory control limits. Raw data was checked for calculation and transcription errors and none were found.

Laboratory Control Sample

Laboratory control sample (LCS) and laboratory control sample duplicates (LCSDs) were analyzed at a rate of one per analytical batch. The percent recoveries and %RPDs for target analytes were within laboratory-defined control limits, with the following exceptions.

For analytical batch WG1323788, target analytes chloromethane, bromomethane, vinyl chloride, and chloroethane were recovered above the upper control limit. This LCS and LCSD are associated with groundwater results for wells MW-1I, MW-1S, MW-3I, and MW-4S. Detected results are 'J+' flagged as estimated values that may be biased high; not detected results are not flagged.

For analytical batch WG1324030, the target analyte 2,2-dichloropropane was recovered above the upper control limit for the LCSD and the %RPD exceeded the control limit. The associated sample included in this analytical batch was the trip blank, which was not detected for 2.2-dichloropropane. No data was flagged.

Matrix Spike/Matrix Spike Duplicate

One matrix spike (MS) and matrix spike duplicate (MSD) were analyzed for analytical batch WG1323788. This MS and MSD used groundwater collected from well MW-4S as the source. The recovery of target analytes was outside of the laboratory-defined control limits for chloromethane, vinyl chloride, chloroethane, and dichlorodifluoromethane. Additionally, the RPD for chloromethane exceeded the control limit. The matrix source (MW-4S) was not detected for chloromethane, chloroethane, and dichlorodifluoromethane; therefore, no data was flagged for these results. The vinyl chloride result was previously flagged with 'J+' for MW-4S due to a high recovery in the LCS/LCSD. This flag will remain.

Field Duplicate

One field duplicate was collected from well MW-1S. Detected results greater than five times the reporting limit were controlled using a %RPD maximum of 30 percent. Results were within this control limit.

Internal Standard

All required internal standards were added to samples, blank samples and quality control samples at the same specified concentration to monitor system performance and quantify target analytes. Raw data was checked against acceptance criteria for retention times and area response. Retention times did not differ more than 10 seconds from the check standard (beginning calibration check verification). Area responses were within 50-200% of the check standard.

Target Analyte Identification

Target analyte detections are confirmed by ion fragments and retention times. Raw data was evaluated based on relative intensities (±20% from the check standard) and the relative retention time (RRT; within ±0.06 retention time

units from the check standard). Ions and retention times were generally within these control limits, with the following exceptions.

For groundwater collected from well MW-3I, cis-1,2-dichloroethene and trichloroethene were detected between the minimum reporting limit and the method detection limit. The secondary ion intensities were below the lower control limit; however, the tertiary ions were within the ±20% control limit and the analyte peaks were within the RRT control limit of ±0.06 retention time units. Based on the tertiary ion relative intensities and the retention times, the cis-1,2-dichlroethene and trichloroethene results are considered to be reportable. Failures associated with the secondary ion intensities are most likely due to analyte concentrations being below the reporting limit.

For groundwater collected from well MW-4S, cis-1,2-dichloroethene was detected between the minimum reporting limit and the method detection limit. The secondary ion intensity was below the lower control limit; however, the tertiary ion was within the ±20% control limit and the analyte peak was within the RRT control limit of ±0.06 retention time units. Based on the tertiary ion relative intensity and the retention time, the cis-1,2-dichlroethene result is considered to be reportable. Failures associated with the secondary ion intensity is most likely due to analyte concentrations being below the reporting limit.

For groundwater collected from well MW-1S, acetone was detected between the minimum reporting limit and the method detection limit. The secondary ion intensity was below the lower control limit; however, the analyte peak was within the RRT control limit of ±0.06 retention time units. Failures associated with the secondary ion abundance are most likely due to analyte concentrations being below the reporting limit and the analyte results is still considered to be reportable. Trans-1,2-dichloroethene was also detected between the minimum reporting limit and the method detection limit. The tertiary ion relative intensity was outside of the control limit; however, the retention time was within the control limit. The tertiary ion failure is associated with the trace detection of trans-1,2-dichloroethene and results are reportable. Additionally, cis-1,2-dichlorothene was detected above the reporting limit but the secondary ion relative abundance was outside of the control limit. The result is considered reportable based on the retention time of the peak and analyte mass spectra compared to the reference spectra.

For groundwater collected from well MW-4S, the secondary ion abundance for cis-1,2-dichloroethene was outside of the ±20% range. However, the tertiary ion abundance and retention time were within the control limits and the analyte mass spectra was similar to the reference spectra. The result is considered reportable as cis-1,2-dichloroethene.

Target Analyte Quantitation and Reported Contract Required Quantitation Limits

Results for positively identified analytes and method reporting limits were calculated correctly by the laboratory and adjusted based on initial sample volumes. Internal standards based on the ICAL were used for quantitation of analytes in samples and quality control samples. Primary ion fragments used to identify analytes and mean RRF were the same as the ICAL.

2.1.2 Metals

Preservation and Holding Time

Groundwater samples were received by the laboratory with nitric acid (HNO_3) preservative. The pH of the samples was confirmed by the laboratory to be less than two (<2). Samples were prepared and analyzed within four days of sampling. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration

Target analytes were calibrated using a two-point calibration curve. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Results for ICB and CCB check samples were within control limits.

One method blank was analyzed for analytical batch WG1323231. Manganese was detected between the method detection limit and the minimum reporting limit. The associated environmental samples were either not detected or manganese detections were greater than ten times the method blank concentration.

One field blank was collected and analyzed with groundwater samples collected on 12/16/2020. Iron was detected in the field blank above the minimum reporting limit. Groundwater sample concentrations for iron were greater than ten times the field blank concentration; therefore, potential contamination from the field is not considered to have significant influence on groundwater sample concentrations.

Interference Check Standard
The ICSAB and ICSA check standards were within 20% of the true value and ND values were no greater than ±RL.

Laboratory Control Sample
Target analyte recoveries were within ±20% of true values.

Matrix Spike/Matrix Spike Duplicate
One MS and MSD were analyzed for analytical batch WG1323231. Groundwater collected from well MW-4S was used as the source sample. The recoveries of chromium and manganese were below the lower control limit and a post-digestion spike was utilized and was within acceptable criteria. Per CLP Guidance the detected manganese result for well MW-4S is 'J' flagged as an estimated value; the not detected result for chromium is 'UJ' flagged.

Field Duplicate

One field duplicate was collected from well MW-1S. Detected results greater than five times the reporting limit were controlled using a %RPD maximum of 30 percent. Results were within this control limit.

2.1.3 Chloride

Preservation and Holding Time
Groundwater samples were received by the laboratory without preservative per the analytical method. Samples were prepared and analyzed within four days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
Chloride was calibrated using an eight-point calibration curve. The correlation coefficient (r^2) of the calibration curve was 0.999. The initial and continuing calibration verification standards were within 10% of their true values. Continuing calibration verification standards were performed every 10 samples.

Blanks

An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Trace detections of chloride were found in ICB and CCB samples.

One method blank was analyzed for analytical batch WG1323406. Chloride was detected in the method blank at a similar concentration to the ICB and CCB samples. Laboratory contamination is suspected; however, the associated groundwater sample concentrations were greater than ten times the method blank concentration. Laboratory contamination is not suspected to have significantly influenced groundwater sample concentrations.

One field blank was collected and analyzed with groundwater samples collected on 12/16/2020. Chloride was detected in the field blank between the method detection limit and the minimum reporting limit. The concentration of chloride in the field blank was similar to concentrations found in the ICB, CCB, and method blank; therefore, this contamination is considered to be laboratory-based.

Laboratory Control Sample
One LCS was analyzed for analytical batch WG1323406 and the result was within ±20% of the true value.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed for analytical batch WG1323406 and groundwater collected from well MW-4S was used as the source sample. The chloride recovery was within ±40% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for analytical batch WG1323406 and groundwater collected from well MW-4S was used as the source sample. The chloride RPD was less than the control limit of 7 percent.

Field Duplicate

One field duplicate was collected from well MW-1S. The chloride results were within the 30 percent RPD control limit.

2.1.4 TOC

Preservation and Holding Time
Groundwater samples were received by the laboratory preserved with sulfuric acid (H_2SO_4) to a pH less than 2. Samples were prepared and analyzed within four days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
TOC was calibrated using a five-point calibration curve. The correlation coefficient (r^2) of the calibration curve was 0.999. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Trace detections of TOC were below method detection limits.

Two method blanks were analyzed; one for each analytical batch (WG1322838 and WG1323069). TOC was not

detected above detection limits.

One field blank was collected and analyzed with groundwater samples collected on 12/16/2020. TOC was detected between the method detection limit and minimum reporting limit and may indicate that contamination was present during sampling. Detected results less than ten times the field blank concentration are 'J+' flagged.

Target Analyte Quantitation
The TOC chromatogram for groundwater collected from well MW-3I had an abnormal peak shape that may indicate that an interferent is contributing to the TOC concentration. The TOC result for well MW-3I should be considered estimated and was previously flagged as 'J+' due to field blank contamination.

Laboratory Control Sample
One LCS was analyzed per analytical batch (WG1322838 and WG1323069). TOC results were within ±10% of the true value.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed per analytical batch (WG1322838 and WG1323069). Groundwater collected from wells MW-4S and MW-1S was used as the source matrix. The TOC recovery was within ±20% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for both analytical batches WG1322838 and WG1323069. Groundwater collected from wells MW-4S and MW-1S was used as the source matrix. The TOC RPDs were less than the control limit of 20 percent.

Field Duplicate

One field duplicate was collected from well MW-1S. The TOC results were within the 30 percent RPD control limit.

2.2 SDG L1961700

Data validation and review was conducted for groundwater samples within SDG L1961700 in accordance with the EPA National Functional Guidelines for Superfund Organic and Inorganic Methods Review, January 2017, and NYSDEC Analytical Services Protocol. The SDG included six groundwater samples to be analyzed for VOCs by EPA Method 8260C, metals by EPA 6010D, TOC by EPA 9060A, and chloride by SM 4500-Cl-E. The groundwater samples are listed below.

SDG ID	Sample ID	Matrix	Sample Date	Sample Time
L1961700-01	MW-2S	Groundwater	December 26, 2019	10:35
L1961700-02	MW-21	Groundwater	December 26, 2019	11:35
L1961700-03	MW-2D	Groundwater	December 26, 2019	12:35
L1961700-04	MW-1D	Groundwater	December 26, 2019	09:45

L1961700-05	MW-7S	Groundwater	December 26, 2019	13:45
L1961700-06	MW-7I	Groundwater	December 26, 2019	14:45

Samples were received within twenty-four hours of sampling by the analytical laboratory, Alpha Analytical. As indicated by the analytical laboratory sample delivery group summary: the cooler temperature upon receipt was 3.4^{0}C, custody seals were not utilized, and containers were accurately labeled and reflected the chain of custody. Headspace in volatile organic analysis (VOA) water containers was not noted and samples are assumed to be within compliance.

2.2.1 VOCs

Holding Times

Samples were received below 6^{0}C and were analyzed within the method holding time limit of 14 days for preserved water without headspace. Analysis for VOCs was performed within four days from sample collection. Groundwater samples were preserved with hydrochloric acid (HCl) to a pH<2, which was verified by the laboratory after analysis.

Instrument Performance Check

Bromofluorobenzene (BFB) was evaluated for mass spectra requirements and frequency to ensure adequate instrument performance. Two sequences and subsequently two BFB standards were analyzed for samples included in SDG L1961700. This includes one calibration sequence and one environmental sample sequence. BFB tune checks were completed less than 12 hours before the final sample injection. All BFB tunes were within instrument and CLP guidance requirements.

Initial Calibration

One initial calibration (ICAL16379) was used to quantitate VOC data for SDG L1961700.

The calibration curve included at least five calibration points, were performed prior to ICVs, samples and blanks, and were within twelve hours of a BFB check standard. Relative Response Factors (RRF) and Percent Relative Standard Deviations (%RSD) were calculated for each analyte and surrogate. The minimum RRF and %RSD for target analytes were within control limits as stated in Table 4 of the EPA *National Functional Guidelines for Superfund Organic Methods Review*, January 2017. However, a *Q flag was noted for bromomethane and iodomethane for ICAL 16379 and all RRFs shown were not used in the %RSD calculation. Results for these analytes are considered estimated and the not detected values are 'UJ' flagged.

Initial Calibration Verification

A second source initial calibration verification was analyzed after calibration. The RRF for target analytes and surrogate analytes were above minimums and below the maximum %D as presented in the CLP Guidance.

Continuing Calibration Verification

Continuing calibration verifications (CCVs) were evaluated to determine instrument performance and calibration

validity during each analytical run. Continuing calibration verification standards were analyzed at the beginning of each analytical run for environmental samples. Closing CCVs were not analyzed per EPA Method 8260C.

The RRF for target analytes and surrogate analytes were generally above minimums and below the maximum %D as presented in the CLP Guidance. However, bromomethane was outside of the maximum %D as presented in the CLP guidance. Groundwater samples were not detected for bromomethane and results are 'UJ' flagged.

Blanks

One method blank was analyzed for analytical batch WG1325839. There were no detections of qualifier-ion confirmed target analytes in the method blank.

Surrogates

The percent recoveries of surrogate compounds were evaluated to determine method and instrument performance. Surrogate recoveries for environmental and quality control samples were within laboratory control limits. Raw data was checked for calculation and transcription errors and none were found.

Laboratory Control Sample

One laboratory control sample (LCS) and one laboratory control sample duplicates (LCSDs) were analyzed for analytical batch WG1325839. The percent recoveries and %RPDs for target analytes were within laboratory-defined control limits, with the following exceptions.

Bromomethane was recovered below the lower control limit. The not detected results are 'UJ' flagged.

Vinyl acetate was recovered above the upper control limit for the LCS. The not detected results were not flagged.

Matrix Spike/Matrix Spike Duplicate

MS/MSDs were not analyzed.

Field Duplicate

Field duplicates were not utilized. Laboratory precision is determined from the analytical batch LCS/LCSD.

Internal Standard

All required internal standards were added to samples, blank samples and quality control samples at the same specified concentration to monitor system performance and quantify target analytes. Raw data was checked against acceptance criteria for retention times and area response. Retention times did not differ more than 10 seconds from the check standard (beginning calibration check verification). Area responses were within 50-200% of the check standard.

Target Analyte Identification

Target analyte detections are confirmed by ion fragments and retention times. Raw data was evaluated based on relative intensities (±20% from the check standard) and the relative retention time (RRT; within ±0.06 retention time units from the check standard). Ions and retention times were generally within these control limits, with the following

exceptions.

For groundwater collected from well MW-2D, cis-1,2-dichloroethene was detected between the minimum reporting limit and the method detection limit. The secondary ion intensity was above the upper control limit; however, the tertiary ion was within the ±20% control limit and the analyte peaks were within the RRT control limit of ±0.06 retention time units. Based on the tertiary ion relative intensity, the retention time, and the mass spectra when compared to the reference standard, the cis-1,2-dichlroethene result is considered to be reportable. Failures associated with the secondary ion intensities are most likely due to analyte concentrations being below the reporting limit.

For groundwater collected from well MW-1D, the secondary ion abundance for cis-1,2-dichloroethene was outside of the ±20% range. However, the tertiary ion abundance and retention time were within the control limits and the analyte mass spectra was similar to the reference spectra. The result is considered reportable as cis-1,2-dichloroethene.

Target Analyte Quantitation and Reported Contract Required Quantitation Limits
Results for positively identified analytes and method reporting limits were calculated correctly by the laboratory and adjusted based on initial sample volumes. Internal standards based on the ICAL were used for quantitation of analytes in samples and quality control samples. Primary ion fragments used to identify analytes and mean RRF were the same as the ICAL.

2.2.2 Metals

Preservation and Holding Time
Groundwater samples were received by the laboratory with nitric acid (HNO_3) preservative. The pH of the samples was confirmed by the laboratory to be less than two (<2). Samples were prepared and analyzed within five days of sampling. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
Target analytes were calibrated using a two-point calibration curve. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Results for ICB and CCB check samples were within control limits for target analytes.

One method blank was analyzed for analytical batch WG1325823 and target analytes were not detected.

Interference Check Standard
The ICSAB and ICSA check standards were within 20% of the true value and ND values were no greater than ±RL.

Laboratory Control Sample
Target analyte recoveries were within ±20% of true values.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed for analytical batch WG1325823. Groundwater collected from well MW-2S was used as the

source sample. The recovery of iron was below the lower control limit; however, the sample concentrations was greater than four times the spiked concentration. Results are not controlled.

Field Duplicate

A field duplicate was not utilized for this SDG.

2.2.3 Chloride

Preservation and Holding Time
Groundwater samples were received by the laboratory without preservative per the analytical method. Samples were prepared and analyzed within four days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
Chloride was calibrated using an eight-point calibration curve. The correlation coefficient (r^2) of the calibration curve was 0.999. The initial and continuing calibration verification standards were within 10% of their true values. Continuing calibration verification standards were performed every 10 samples.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Trace detections of chloride were found in the ICB and CCB samples.

One method blank was analyzed for analytical batch WG1325855. Chloride was detected in the method blank at a similar concentration to the ICB and CCB samples. Laboratory contamination is suspected; however, the associated groundwater sample concentrations were greater than ten times the method blank concentration. Laboratory contamination is not suspected to have significantly influenced groundwater sample concentrations.

Laboratory Control Sample
One LCS was analyzed for analytical batch WG1325855 and the result was within ±20% of the true value.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed for analytical batch WG1325855 and groundwater from another SDG was used as the source sample. The chloride recovery was within ±40% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for analytical batch WG1325855 and groundwater from another SDG was used as the source sample. The chloride RPD was less than the control limit of 7 percent.

Field Duplicate

A field duplicate was not utilized. Laboratory precision was determined from the laboratory duplicate.

2.2.4 TOC

Preservation and Holding Time
Groundwater samples were received by the laboratory preserved with sulfuric acid (H_2SO_4) to a pH less than 2. Samples were prepared and analyzed within four days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
TOC was calibrated using a five-point calibration curve. The correlation coefficient (r^2) of the calibration curve was greater than 0.999. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Trace detections of TOC were below method detection limits.

One method blank was analyzed for analytical batch WG1325643 and TOC was not detected above the detection limits.

Target Analyte Quantitation
The TOC chromatogram for groundwater collected from well MW-7S had an abnormal peak shape that may indicate that an interferent is contributing to the TOC concentration. The TOC result for well MW-3I should be considered estimated and is 'J' flagged.

Laboratory Control Sample
One LCS was analyzed and the TOC result was within ±10% of the true value.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed, which used a groundwater sample from another SDG as the source matrix. The TOC recovery was within ±20% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for analytical batch WG1325643 and groundwater from another SDG was used as the matrix source sample. The TOC RPD was less than the control limit of 20 percent.

Field Duplicate

A field duplicate was not utilized. Laboratory precision was determined from the laboratory duplicate.

2.3 SDG L1961789

Data validation and review was conducted for groundwater samples within SDG L1961789 in accordance with the EPA National Functional Guidelines for Superfund Organic and Inorganic Methods Review, January 2017, and NYSDEC Analytical Services Protocol. The SDG included five groundwater samples to be analyzed for VOCs by EPA Method 8260C, metals by EPA 6010D, TOC by EPA 9060A, and chloride by SM 4500-Cl-E. The groundwater samples are listed below.

SDG ID	Sample ID	Matrix	Sample Date	Sample Time
L1961789-01	MW-4I	Groundwater	December 27, 2019	12:55
L1961789-02	MW-P1	Groundwater	December 27, 2019	12:05
L1961789-03	MW-P2	Groundwater	December 27, 2019	10:50
L1961789-04	MW-3D	Groundwater	December 27, 2019	09:35
L1961789-05	MW-3S	Groundwater	December 27, 2019	08:40

Samples were received within twenty-four hours of sampling by the analytical laboratory, Alpha Analytical. As indicated by the analytical laboratory sample delivery group summary: the cooler temperature upon receipt was 2.2^{0}C, custody seals were not utilized, and containers were accurately labeled and reflected the chain of custody. Headspace in volatile organic analysis (VOA) water containers was not noted and samples are assumed to be within compliance.

2.3.1 VOCs

Holding Times

Samples were received below 6^{0}C and were analyzed within the method holding time limit of 14 days for preserved water without headspace. Analysis for VOCs was performed within four days from sample collection. Groundwater samples were preserved with hydrochloric acid (HCl) to a pH<2, which was verified by the laboratory after analysis.

Instrument Performance Check

Bromofluorobenzene (BFB) was evaluated for mass spectra requirements and frequency to ensure adequate instrument performance. Two sequences and subsequently two BFB standards were analyzed for samples included in SDG L1961789. This includes one calibration sequence and one environmental sample sequence. BFB tune checks were completed less than 12 hours before the final sample injection. All BFB tunes were within instrument and CLP guidance requirements.

Initial Calibration

One initial calibration (ICAL16377) was used to quantitate VOC data for SDG L1961789.

The calibration curve included at least five calibration points, were performed prior to ICVs, samples and blanks, and were within twelve hours of a BFB check standard. Relative Response Factors (RRF) and Percent Relative Standard Deviations (%RSD) were calculated for each analyte and surrogate. The minimum RRF and %RSD for target analytes were within control limits as stated in Table 4 of the EPA *National Functional Guidelines for Superfund Organic Methods Review*, January 2017.

Initial Calibration Verification

A second source initial calibration verification was analyzed after calibration. The RRF for target analytes and surrogate analytes were above minimums and below the maximum %D as presented in the CLP Guidance.

Continuing Calibration Verification

Continuing calibration verifications (CCVs) were evaluated to determine instrument performance and calibration validity during each analytical run. Continuing calibration verification standards were analyzed at the beginning of each analytical run for environmental samples. Closing CCVs were not analyzed per EPA Method 8260C.

The RRF for target analytes and surrogate analytes were above minimums and below the maximum %D as presented in the CLP Guidance.

Blanks

One method blank was analyzed for analytical batch WG1326239. There were no detections of qualifier-ion confirmed target analytes in the method blank.

Surrogates

The percent recoveries of surrogate compounds were evaluated to determine method and instrument performance. Surrogate recoveries for environmental and quality control samples were within laboratory control limits. Raw data was checked for calculation and transcription errors and none were found.

Laboratory Control Sample

One laboratory control sample (LCS) and one laboratory control sample duplicate (LCSD) were analyzed for analytical batch WG1326239. The percent recoveries and %RPDs for target analytes were within laboratory-defined control limits, with the following exceptions.

Vinyl acetate was recovered above the upper control limit for the LCS and LCSD. The associated groundwater results were not detected for vinyl acetate and results were not flagged.

Matrix Spike/Matrix Spike Duplicate

MS/MSDs were not analyzed.

Field Duplicate

Field duplicates were not utilized. Laboratory precision is determined from the analytical batch LCS/LCSD.

Internal Standard

All required internal standards were added to samples, blank samples and quality control samples at the same specified concentration to monitor system performance and quantify target analytes. Raw data was checked against acceptance criteria for retention times and area response. Retention times did not differ more than 10 seconds from the check standard (beginning calibration check verification). Area responses were within 50-200% of the check standard.

Target Analyte Identification
Target analyte detections are confirmed by ion fragments and retention times. Raw data was evaluated based on relative intensities (±20% from the check standard) and the relative retention time (RRT; within ±0.06 retention time units from the check standard). Ions and retention times were generally within these control limits.

Target Analyte Quantitation and Reported Contract Required Quantitation Limits
Results for positively identified analytes and method reporting limits were calculated correctly by the laboratory and adjusted based on initial sample volumes. Internal standards based on the ICAL were used for quantitation of analytes in samples and quality control samples. Primary ion fragments used to identify analytes and mean RRF were the same as the ICAL.

2.3.2 Metals

Preservation and Holding Time
Groundwater samples were received by the laboratory with nitric acid (HNO_3) preservative. The pH of the samples was confirmed by the laboratory to be less than two (<2). Samples were prepared and analyzed within six days of sampling. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
Target analytes were calibrated using a two-point calibration curve. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Results for ICB and CCB check samples were within control limits for target analytes.

One method blank was analyzed for analytical batch WG1326095and target analytes were not detected.

Interference Check Standard
The ICSAB and ICSA check standards were within 20% of the true value and ND values were no greater than ±RL.

Laboratory Control Sample
Target analyte recoveries were within ±20% of true values.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed for analytical batch WG1326095. Groundwater collected from well MW-4I was used as the source sample. Recoveries of target analytes were within ±25% of expected values.

Field Duplicate

A field duplicate was not utilized for this SDG.

2.3.3 Chloride

Preservation and Holding Time
Groundwater samples were received by the laboratory without preservative per the analytical method. Samples were

prepared and analyzed within three days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
Chloride was calibrated using an eight-point calibration curve. The correlation coefficient (r^2) of the calibration curve was 0.999. The initial and continuing calibration verification standards were within 10% of their true values. Continuing calibration verification standards were performed every 10 samples.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the beginning and end of the sequence and every 10 samples. Trace detections of chloride were found in the ICB and CCB samples.

One method blank was analyzed for analytical batch WG1325855. Chloride was detected in the method blank at a similar concentration to the ICB and CCB samples. Laboratory contamination is suspected; however, the associated groundwater sample concentrations were greater than ten times the method blank concentration. Laboratory contamination is not suspected to have significantly influenced groundwater sample concentrations.

Laboratory Control Sample
One LCS was analyzed for analytical batch WG1325855 and the result was within ±10% of the true value.

Matrix Spike/Matrix Spike Duplicate
One MS was analyzed for analytical batch WG1325855 and groundwater from another SDG was used as the source sample. The chloride recovery was within ±40% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for analytical batch WG1325855 and groundwater well MW-3D was used as the soured matrix. The chloride RPD was less than the control limit of 7 percent.

Field Duplicate

A field duplicate was not utilized. Laboratory precision was determined from the laboratory duplicate.

2.3.4 TOC

Preservation and Holding Time
Groundwater samples were received by the laboratory preserved with sulfuric acid (H_2SO_4) to a pH less than 2. Samples were prepared and analyzed within six days of collection and within the 28-day holding time. Preparation and analysis dates that are reported were confirmed with raw data.

Calibration
TOC was calibrated using a five-point calibration curve. The correlation coefficient (r^2) of the calibration curve was greater than 0.999. The initial and continuing calibration verification standards were within 10% of their true values.

Blanks
An ICB was analyzed after each calibration and a CCB was analyzed after every CCV, which was analyzed at the

beginning and end of the sequence and every 10 samples. Trace detections of TOC were below method detection limits.

One method blank was analyzed for analytical batch WG1326306 and TOC was not detected above the detection limits.

Target Analyte Quantitation

The TOC chromatogram for groundwater collected from wells MW-P2, MW-3D, and MW-3S had an abnormal peak shape that may indicate that an interferent is contributing to the TOC concentration. The TOC result for groundwater from these monitoring wells should be considered estimated and results are 'J' flagged.

Laboratory Control Sample

One LCS was analyzed and the TOC result was within ±10% of the true value.

Matrix Spike/Matrix Spike Duplicate

One MS was analyzed, which used a groundwater from well MW-3D as the matrix source. The TOC recovery was within ±20% of the true value.

Laboratory Duplicate

One laboratory duplicate was analyzed for analytical batch WG1326306 and groundwater from well MW-P2 was used as the matrix source. The TOC RPD was less than the control limit of 20 percent.

Field Duplicate

A field duplicate was not utilized. Laboratory precision was determined from the laboratory duplicate.

APEX COMPANIES, LLC

Data Usability Summary Report
For Emerging Contaminants

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APEX

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Data Usability Summary Report for Emerging Contaminant Sampling Event Site 360054 115 Wall Street, Valhalla, New York

Scope of Work

Environmental samples were collected from the One Commerce Park Site in Valhalla, New York. These samples consisted of groundwater which were collected in December 2019. Only environmental samples analyzed for per- and polyfluorinated alkyl substances (PFAS) and 1,4-dioxane were evaluated using the DEC ASP Category B data deliverable for this Data Usability Summary Report. Analytical results were validated, and usability was determined using the following guidelines:

- NYSDEC Analytical Services Protocol (ASP);
- Guidelines for Sampling and Analysis of PFAS under NYSDEC's Part 375 Remedial Programs (January 2020);
- USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Validation, and;
- USEPA analytical methods.

1.0 Analytical Laboratory

Samples collected were analyzed by Alpha Analytical of Mansfield, Massachusetts. Alpha Analytical holds accreditation under New York state ID 11627 and the NELAC Institute (TNI) code TNI00262.

1.1 Accreditation

Alpha Analytical is accredited by New York state for the analysis of 1,4-dioxane by EPA Method 8270D-SIM. Alpha Analytical is accredited by New York state for PFAS by EPA Method 537.

1.2 Laboratory Data Packages

Laboratory data packages were complete and included cover pages, chain of custodies, sample log-in information, and case narratives. Raw data was included in data packages and was used in the validation process.

1.3 Laboratory Analytical Methods

Groundwater samples for this Data Usability Summary Report were reviewed for the analysis of 1,4-dioxane by EPA Method 8270D-SIM and PFAS by Isotope Dilution Method (formerly EPA Method 537 modified). Data validation for these analytical methods are included in Section 2.

1.3.1 1,4-Dioxane

Groundwater samples were analyzed by EPA Method 8270D-SIM. Data validation included review of requirements from EPA methods and recommendations from the EPA *National Functional Guidelines for Superfund Organic Methods Review*, January 2017 (CLP Guidance).

1.3.2 PFAS

Groundwater samples were analyzed by Isotope Dilution Method (formerly EPA 537 modified). Data was validated in accordance with *Guidelines for Sampling and Analysis of PFAS Under NYSDEC's Part 375 Remedial Programs* (NYSDEC, 2020). NYSDEC's guidelines were used for evaluation of data quality since the EPA does not have analytical methods or technical guidance for evaluating PFAS data when isotope dilution is used.

1.4 Data Qualification

Laboratory data may be qualified with the following flags:

- **J** The analyte result is an estimated value.
- **J-** The analyte result is an estimated value and may be biased low.
- **J+** The analyte result is an estimated value and may be biased high.
- **U** The analyte was analyzed for but was not detected over the laboratory detection limit.
- **UJ** The analyte was analyzed for but was not detected over the laboratory detection limit. Due to findings with data quality, the laboratory detection limit may be inaccurate and is an estimated value.
- **R** The analyte result is unusable due to data quality deficiencies.

2.0 Data Validation

The following subsections include data validation for individual Sample Delivery Groups (SDG). Each sample within the SDG was reviewed based on EPA method guidelines, CLP Guidance's and NYSDEC's ASP. Summaries of data validation findings and qualifier verification are included below.

2.1 SDG L1960300

Data validation and review was conducted for groundwater samples within SDG L1960300 in accordance with the EPA National Functional Guidelines for Superfund Organic Methods Review, January 2017, NYSDEC Analytical Services Protocol, and NYSDEC Guidelines for Sampling and Analysis of PFAS Under NYSDEC's Part 375 Remedial Programs. The SDG included four groundwater samples, one field blank, and one field duplicate to be analyzed for 1,4-dioxane by EPA Method 8270D-SIM and PFAS by Isotope Dilution Method. The groundwater samples are listed below.

SDG ID	Sample ID	Matrix	Sample Date	Sample Time
L1960300-01	Field Blank	Water	December 16, 2019	10:00
L1960300-02	MW-3I	Groundwater	December 16, 2019	11:30
L1960300-03	MW-4S	Groundwater	December 16, 2019	12:50
L1960300-04	MW-1S	Groundwater	December 16, 2019	14:10
L1960300-05	MW-1I	Groundwater	December 16, 2019	15:00
L1960300-06	DUP-121619	Groundwater	December 16, 2019	14:20

Samples were received by the analytical laboratory, Alpha Analytical. As indicated by the analytical laboratory sample delivery group summary: the cooler temperatures upon receipt were 4.2^{0}C and 4.0^{0}C, custody seals were not utilized, and containers were accurately labeled and reflected the chain of custody.

2.1.1 1,4-Dioxane

Preservation and Holding Times

Samples were received by the laboratory below 6^{0}C, were extracted four days from sample collection and analyzed three days after extraction. Extraction dates and analysis dates from raw data were confirmed against reported dates.

GC/MS Instrument Performance Check

Decafluorotriphenylphosphine (DFTPP) mass spectra and mass listing was evaluated for ion abundance requirements and analysis frequency to ensure adequate instrument performance. Raw data was evaluated to ensure instrument tuning was within CLP requirements. DFTPP was analyzed at the beginning of each sequence and within 12 hours of the last sample injection. Raw data abundances and calculations were checked against tune reports. No discrepancies were found.

Initial Calibration
Initial calibration was performed before ICV, samples and required blanks and within 12 hours of the DFTPP tune check. A minimum of five standards that ranged between 10 ppb and 10000 ppb were used to calibrate the instrumentation. The initial calibration summary report was checked for correct calculation of RRF, mean RRF and %RSD. The initial calibration summary report was generated from acquisition software. RRF and %RSD of target analytes were within CLP guidance.

Initial Calibration Verification
Initial calibration verification was performed after calibration and before any samples, quality control samples, blank analysis and continuing calibration verification. The ICV standard was prepared at 1000 ppb. The RRF and %D for target analytes were above minimum RRFs stated in CLP guidance.

Continuing Calibration Verification
The CCV was analyzed at the mid-point of the calibration curve at 1000 ppb. Only one CCV was included in raw data, which was analyzed at the beginning of the analytical sequence. RRF of analytes were compared to mean RRF from the initial calibration, all were within CLP control limits.

Blanks
One method blank and one field blank were extracted with the associated field samples. There were no detections of target analytes within the method blank or field blank. Chromatograms were also reviewed to ensure all peaks within the target analyte range were were identified.

Surrogates
The recoveries of the surrogate compound 1,4-dioxane-d8 were within the CLP recovery control limit of 40 to 110 percent. Each surrogate was accurately identified, as confirmed after raw data review of retention times and primary ion.

Laboratory Control Sample/Laboratory Control Sample Duplicate
One laboratory control sample and laboratory control sample duplicate were extracted and analyzed with field samples. Percent recoveries and RPDs were within laboratory derived control limits.

Matrix Spike/Matrix Spike Duplicate
Matrix spike and matrix spike duplicate were prepared with groundwater collected from MW-4S. Percent recoveries and RPDs were within laboratory derived control limits.

Internal Standard
Internal standards were added to all samples, quality control samples and blanks. For quantitation of 1,4-dioxane, the internal standard 1,4-dichlorobenzene-d4 was used. Area and retention times for internal standards were within limits set by the check standard. The check standard used was the initial CCV. Raw data was compared to summary data pages and no discrepancies were found.

Target Analyte Quantitation and Reported Contract Require Quantitation Limit
Sample results and reporting limits were correctly calculated based on sample preparation initial and final volumes. Correct internal standards were used to quantitate target analytes. The same mean RRF and quantitation ions were used consistently.

2.1.2 PFAS

Preservation and Holding Times
Samples were received by the laboratory below 6^{0}C, were extracted seven days from sample collection, and analyzed twenty-four (24) days after extraction. Extraction dates and analysis dates from raw data were confirmed against reported dates. The maximum holding time for PFAS extraction of non-potable water is 14 days from sample collections and 28 days from extraction to analysis, January, 2020. Sample extraction and analysis were within these holding times.

Sample Preparation
Each sample and associated QC batch samples were prepared using solid phase extraction (SPE).

Mass Calibration
Mass calibration data was not provided but is assumed to have met manufacturer guidelines.

PFAS Identification
Standards for both branched and linear isomers were used for PFHxS, PFOA, PFOS, N-MeFOSAA, and N-EtFOSAA. All other analytes were quantitated using linear standards only.

Initial Calibration
Isotopically labeled analogs were used for quantitation. If a labeled analog is not available, the closest extracted internal standard analyte was used for quantitation. For linear and quadratic fit calibrations, five and six standards must be used, respectively, and the coefficient of determination (R^2) must be greater than 0.990. Response factors must have a percent relative standard deviation (%RSD) less than 20%.

For initial calibration 16305, the %RSDs for response factors for M2-4:2 FTS and M2-6:2 FTS were greater than 20%. M2-6:2 FTS is an extracted internal standard and associated with results for field samples. Recoveries for M2-6:2 FTS should be considered estimated.

For target analytes, the low-level standards were within 50-150% for analyte recoveries and mid-level standards were within 70-130%.

Initial and Continuing Calibration Verification
The laboratory control limits for the initial and continuing calibration verification is 70-130% for target analytes and 50-150% for isotopically labeled extracted internal standard analytes. The initial calibration verification associated with ICAL 16305 was within the acceptance criteria for target analytes.

Continuing calibration verification standards were analyzed at a frequency of one per ten field samples. Low-level and mid-level calibration verification standards were used. The acceptance limits for low-level standards was 50-150% for analyte recovery and 70-130% for mid-level calibration verification analyte recovery. Branched isomers were recovered below the lower control limit for CCVs I17217 and I17249 for PFOS and/or PFOA; however, summed concentrations of the branched and linear isomers were within range of the known spiked concentration (or true value). No data is flagged.

Method Blank
One method blank was analyzed for analytical batch WG1323894. PFHxA was detected at a concentration between the reporting limit and the method detection limit at 0.384 nanograms per liter (ng/L). The associated field samples

were generally greater than ten times the method blank concentration for PFHxA, with the exception of groundwater collected from wells MW-4S and MW-3I. A dilution was performed for well MW-3I prior to extraction; therefore, raw results were compared to the method blank. The concentration of PFHxA for wells MW-4S and MW-31 may be significantly influenced by laboratory contamination and the results are 'J+' flagged as estimated values with possible high bias.

Field Blank

One field blank was performed and analyzed with field samples collected on December 16, 2019. NMeFOSAA and NEtFOSAA were detected between the reporting limit and method detection limit at 0.618 ng/L and 0.716 ng/L, respectively. Groundwater samples collected from MW-3I and MW-1S also had similar concentrations of NMeFOSAA and/or NEtFOSAA that were less than ten times the concentration found in the field blank. These samples may have had some contribution from field contamination and results are 'J+' flagged as estimated values with possible high bias.

Field Duplicate

One field duplicate was collected from well MW-1S. Results greater than two times the reporting limit are controlled and must not exceed an RPD of 30%. Target analytes were within the 30% RPD control limit.

Laboratory Control Samples

The recovery and RPD for target analytes in the associated batch LCS/LCSD were within laboratory derived control limits.

Matrix Spike/Matrix Spike Duplicate

The source sample for the matrix spike and matrix spike duplicate was MW-4S. The recovery and RPD for target analytes in the associated batch were within laboratory derived control limits.

Extractable Internal Standard Analytes

Extractable internal standards (EIS) were generally within the 50-150% control limit for field samples. Exceptions include the following.

- Field blank: M8FOSA recovered below 50%.
- MW-3I: M8FOSA recovered below 50%.
- MW-4S: M2-6:2FTS and M2-6:2FTS recovered above 150%; and M8FOSA recovered below 50%.
- MW-1S: M2-6:2FTS recovered above 150%; and d3-NMeFOSAA and M8FOSA recovered below 50%.
- MW-1I: M2-6:2FTS and M2-6:2FTS recovered above 150%; and M8FOSA recovered below 50%.
- Field duplicate: M2-6:2FTS and M2-6:2FTS recovered above 150%; and M8FOSA recovered below 50%.

These are known problematic analytes and native compounds are recovery corrected. No data was flagged.

Secondary Ion Transition Monitoring

Ion ratios were within laboratory derived criteria.

Signal to Noise Ratio

Signal to noise data was not provided; however, it is assumed that all signal to noise ratios were greater than 3:1.

Peak Integrations

Peak integrations were reviewed and were consistent with standards.