GROUNDWATER AND LANDFILL GAS MONITORING REPORT #29

FORMER PORTSMOUTH LANDFILL
PORTSMOUTH, RHODE ISLAND 02871

ATLAS PROJECT NO.: 3010000351

PREPARED FOR:

AP Enterprise LLC
28 Teal Drive
Wakefield, Rhode Island 02879

PREPARED BY:

Atlas Technical Consultants LLC

September 3, 2024

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1.0 INTRODUCTION

Atlas Technical Consultants LLC (Atlas) was retained by AP Enterprise LLC to conduct quarterly groundwater monitoring and landfill gas monitoring at the former Portsmouth Landfill located on Park Avenue in Portsmouth, Rhode Island (Site). The objective of this work is to implement the Rhode Island Department of Environmental Management (RIDEM) approved Site Monitoring Plan and Second Phase of Site Monitoring Plan prepared by Tim O'Connor & Company LLC.

1.1 Site Location and Description

The entrance to the former Portsmouth Landfill is located 500 feet west-northwest of the intersection formed by Boyds Lane and Park Avenue. The property is identified by the Portsmouth Tax Assessor as Plat 20 Lots 1, 2 & 13 and Plat 25 Lot 2 (the Site). The Site encompasses approximately 15.02 acres. The ground surface of the central portion of the landfill is generally level, and slopes downward along the landfill margins. A Site Locus Map and a Site Plan are included as **Figures 1 and 2**, respectively.

1.2 Background

The following activities were conducted to evaluate the potential presence of contamination in soil gas and groundwater resulting from historic landfill activities.

On April 25, 2017, groundwater monitoring wells MW-1, MW-2, MW-3, and MW-4 were completed at the Site. As outlined in Second Phase of Site Monitoring Plan, approved by RIDEM, Atlas installed four (4) additional groundwater monitoring wells on November 11, 2021 (MW-5, MW-6, MW-7 and MW-8). Groundwater monitoring wells were advanced depths of 10 to 18 feet below ground surface and were constructed using two-inch diameter, polyvinyl chloride (PVC) riser and machine-slotted 0.01 inch well screen. The well screen was placed to intercept the groundwater table. Groundwater was encountered at depths of 5 to 12 feet below grade. Soils consisted of fill and stratified sands. Groundwater monitoring well locations are depicted on **Figure 2**.

Four (4) permanent soil gas points (SGPs) (SG-1, SG-2, SG-3 and SG-4) were installed on April 25, 2017. At the request of RIDEM, On April 13, 2018, ATC installed seven (7) additional perimeter SGPs (SG-3A, SG-3B, SG-3C, SG-3D, SG-3E, SG-3F and SG-3G), located every 50 feet along the edge of the Site boundary near SG-3. SG-3 had concentrations of methane exceeding the lower explosive limit (LEL) of 5% and the RIDEM limit of 25% of the LEL (1.25%). As outlined in the Second Phase of Site Monitoring Plan, approved by RIDEM, on November 11, 2021 Atlas installed four (4) additional SGP's (SG-5, SG-6, SG-7 and SG-8) along the Site boundary. All of the SGPs were installed in the unsaturated zone, using a Geoprobe® 21" stainless soil gas implant. The depth of placement was determined by the existing depth to groundwater at each location, which ranged from approximately 4 to 12 feet below grade.

All of the peripheral SGPs are positioned to monitor for potential landfill gas migration from the solid waste mound. SGP locations are shown on **Figure 2**.

2.0 FIELD ACTIVITIES

The following activities were conducted to evaluate the potential presence of contamination in soil gas and groundwater resulting from historic landfill activities.

2.1 Monitoring Well Gauging and Area Groundwater Flow

On July 29 and August 6, 2024, Atlas gauged the depth to groundwater in the eight (8) on Site groundwater monitoring wells using an electronic oil/water interface probe. Depth to groundwater was measured from the top of the PVC well risers and ranged from 7.13 feet below top of casing in MW-1 to 15.11 feet below top of casing in MW-8. Non-aqueous phase liquids were not detected on the groundwater surface, or at the bottom of the wells. A Water Level Gauging Sheet is provided as **Table 1**.

On June 15, 2017, DiPrete Engineering completed a well elevation survey of wells MW-1 through MW-4. These monitoring wells were surveyed with reference to mean seal level.

2.2 Groundwater Sampling and Analysis

On July 29 and August 6, 2024, Atlas completed quarterly groundwater sampling at the Site. The groundwater samples were obtained using low stress purging. Atlas used a variable speed low-flow peristaltic pump to control the rate of purging and limit the drawdown. High density polyethylene (HDPE) tubing was used at each well. Field parameters were recorded during sampling using a YSI Pro Series with flow-through cell. Field parameters included pH, water temperature, specific conductance, oxidation reduction potential (ORP), dissolved oxygen and turbidity. Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and MW-8 for the analysis volatile organic compounds (VOCs) by US Environmental Protection Agency (EPA) Method 8260 and total metals by EPA Methods 6010 and 7010.

The groundwater samples were contained in laboratory grade pre-preserved sample containers, placed in a cooler on ice and submitted under chain of custody to Eurofins Environmental Testing New England (Eurofins) of North Kingstown, Rhode Island, a Rhode Island certified laboratory.

2.3 Groundwater Analytical Results

Lead was detected in MW-7 at a concentration (0.043 milligrams per liter (mg/L)) exceeding the RIDEM GA Groundwater Objective of 0.015 mg/L. No other metals were reported in excess of the RIDEM GA Groundwater Objectives.

Vinyl chloride was detected in MW-8 at a concentration (0.0077 mg/L) exceeding the RIDEM GA Groundwater Objective of 0.002 mg/L. No other compounds were reported in excess of the RIDEM GA Groundwater Objectives in the groundwater samples obtained on July 29 or August 6, 2024.

The groundwater analytical data is summarized on **Table 2**. The laboratory analytical report is included in **Appendix A.**

2.4 Soil Gas Monitoring

On July 29, 2024, Atlas conducted the twenty-ninth quarterly round of landfill gas monitoring. Soil gas concentrations of methane, hydrogen sulfide, oxygen and carbon dioxide were measured at the monitoring points using a Landtech Gem 5000 Landfill Gas Analyzer and a QRAE II Gas Analyzer. Additionally, ambient temperature, barometric pressure, wind speed and wind direction were

measured and recorded. SGPs are depicted on **Figure 2**. The soil gas monitoring readings are summarized on **Table 3**.

Methane was detected in monitoring point SG-3 at a concentration of 2.5%. This concentration is below methane's lower explosive limit (LEL) of 5%. The measured methane concentration in SG-3 exceeds the RIDEM Solid Waste Regulation No. 2, Section 2.3.08 (d), of 25% of the LEL (1.25%) at the Site boundary. All of the other site boundary monitoring points measured were non-detect for methane.

Hydrogen sulfide was detected in SG-3 at a concentration of 7%. Carbon dioxide concentrations ranged from non-detected to a maximum of 11.1% at SG-8. Oxygen concentrations ranged from atmospheric (approximately 20.5%) down to 6.8% at SG-8. The soil gas monitoring readings are summarized in **Table 3**.

3.0 CONCLUSIONS

Atlas performed the twenty-ninth quarterly groundwater and landfill gas monitoring on July 29, and August 6, 2024, at the former Portsmouth town landfill on Park Avenue in Portsmouth, Rhode Island. Based upon the scope of work and sampling activities completed, Atlas concludes the following:

- The concentration of lead in MW-7 was detected above the RIDEM GA Groundwater objective. No other metals were reported in excess of the RIDEM GA Groundwater Objectives.

- The concentration of vinyl chloride in MW-8 was detected above the RIDEM GA Groundwater Objectives. No other VOCs were reported in excess of the RIDEM GA Groundwater Objectives.

- Methane was detected in soil gas monitoring point SG-3 (2.5%), at a concentration below methane's lower explosive limit of 5%. This concentration exceeds the RIDEM Solid Waste Regulation No. 2, Section 2.3.08 (d), of 25% of the LEL (1.25%). In Atlas' opinion, current conditions do not constitute a threat of harm to human health. However, soil gas conditions should continue to be closely monitored due to the observed methane concentrations. Methane was not detected in any of the other SGPs.

- Hydrogen sulfide was detected in SG-3 at a concentration of 7%.

- Carbon dioxide concentrations ranged from non-detected to a maximum of 11.1% at SG-8. Oxygen concentrations ranged from atmospheric (approximately 20.5%) down to 6.8% at SG-8.

The next quarterly monitoring event is scheduled for October 2024.

TABLES

WATER LEVEL MEASUREMENTS

Location:	Portsmouth Landfill, Park Ave.	*Atlas Proj. #*	3010000351
Client:	AP Enterprise LLC	*Date:*	7/29/2024 & 8/6/2024
Instrument:	Solinst Interface Probe	*Gauged By:*	MH
Checked By:	AK		

WELL #	M.P. ELEVATIONS	DEPTH TO PRODUCT	DEPTH TO WATER	PRODUCT THICKNESS	EQUIVALENT HD ELEV.
MW-1	8.84	---	7.13	0.00	1.71
MW-2	16.25	---	14.50	0.00	1.75
MW-3	16.40	---	14.68	0.00	1.72
MW-4	14.09	---	12.32	0.00	1.77
MW-5		---	7.71	0.00	
MW-6		---	13.27	0.00	
MW-7		---	11.14	0.00	
MW-8		---	15.11	0.00	

NOTES:

Height of PVC; MW-1: 3.21, MW-2: 4.01, MW-3: 3.27, MW-4: 2.97

Survey (MW-1 - MW-4) completed by DiPrete Enginering (6/15/17)

Table 2

Groundwater Analytical Results
Park Avenue, Portsmouth, Rhode Island

Well ID	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	1,1-Dichloroethane	1,4-Dichlorobenzene	Benzene	Chlorobenzene	Chloroethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Diethyl Ether	Isopropylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene (TCE)	Vinyl Chloride
MW-1	5/31/2017	ND (0.025)	ND (0.002)	**0.062**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.002)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/2017	ND (0.002)	ND (0.002)	**0.068**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.002)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	12/21/2017	ND (0.002)	ND (0.002)	**0.101**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.034**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/13/2018	ND (0.0005)	ND (0.005)	**0.050**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/31/2018	ND (0.0005)	ND (0.010)	**0.060**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.031**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2018	ND (0.001)	**0.003**	**0.135**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.030**	ND (0.010)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.137**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2019	ND (0.002)	ND (0.002)	**0.059**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0002)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/12/2019	ND (0.001)	ND (0.002)	**0.051**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2019	ND (0.001)	ND (0.002)	**0.085**	ND (0.0005)	**0.0032**	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.036**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2019	ND (0.001)	ND (0.002)	**0.088**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.001)	ND (0.001)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/15/2020	ND (0.010)	ND (0.025)	ND (0.25)	ND (0.0005)	ND (0.025)	ND (0.010)	ND (0.010)	ND (0.1)	ND (0.1)	ND (0.25)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/23/2020	ND (0.001)	ND (0.002)	**0.115**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/30/2020	ND (0.001)	ND (0.002)	**0.134**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.040**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2020	ND (0.001)	ND (0.002)	**0.155**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.057**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/5/2021	ND (0.001)	ND (0.002)	**0.105**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/7/2021	ND (0.001)	ND (0.002)	**0.123**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/27/2021	ND (0.001)	ND (0.002)	**0.155**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.036**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2021	ND (0.002)	ND (0.002)	**0.203**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.027**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/19/2022	ND (0.002)	ND (0.002)	**0.175**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.029**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	**0.076**	ND (0.0005)	ND (0.00050)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.028**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	**0.0031**	**0.180**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00056**	**0.003**	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.042**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	**0.0012**	**0.150**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00063**	ND (0.010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.033**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	ND (0.001)	**0.0011**	**0.190**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00099**	ND (0.010)	ND (0.001)	**0.0011**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.03**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	**0.0015**	**0.140**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00096**	ND (0.010)	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.015**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	Not Sampled																												
	10/4/2023	ND (0.001)	**0.0054**	**0.052**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00820**	**0.0080**	ND (0.001)	**0.0088**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.017**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/12/2024	ND (0.002)	**0.0072**	**0.160**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.0160**	**0.0036**	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.860**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/10/2024	ND (0.002)	ND (0.002)	**0.120**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	ND (0.004)	ND (0.0012)	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	ND (0.0165)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	8/6/2024	ND (0.002)	ND (0.002)	**0.150**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.011**	**0.0014**	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.027**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	5/31/2017	ND (0.025)	ND (0.002	**0.084**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.005**	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.010)	**0.044**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/2017	ND (0.002)	ND (0.002)	**0.177**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	(ND 0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0034**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	12/21/2017	ND (0.002)	ND (0.002)	**0.187**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.014**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.089**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/13/2018	ND (0.0005)	ND (0.010)	**0.094**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.017**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.051**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/31/2018	ND (0.0005)	ND (0.002)	**0.119**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.060**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0012**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2018	ND (0.001)	ND (0.002)	**0.141**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.011**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.051**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2019	ND (0.002)	**0.003**	**0.070**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/12/2019	ND (0.001)	ND (0.002)	**0.069**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.015**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.071**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2019	ND (0.001)	ND (0.002)	**0.088**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.041**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2019	ND (0.001)	**0.003**	**0.082**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.076**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0014**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/15/2020	ND (0.001)	**0.004**	**0.093**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/23/2020	ND (0.001)	**0.003**	**0.074**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/30/2020	ND (0.001)	ND (0.002)	**0.096**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.001**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0138**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2020	ND (0.001)	ND (0.002)	**0.115**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	**0.0019**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0283**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-2	1/5/2021	ND (0.001)	**0.008**	**0.105**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.016**	**0.011**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.231**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0283**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/7/2021	ND (0.001)	**0.004**	**0.064**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.041**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/27/2021	ND (0.001)	**0.003**	**0.078**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.071**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0045**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2021	ND (0.002)	**0.004**	**0.094**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.039**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/19/2022	ND (0.002)	**0.004**	**0.112**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.011**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.095**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	**0.065**	ND (0.0005)	ND (0.00050)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.039**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	**0.0038**	**0.100**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00056**	**0.0043**	**0.0021**	ND (0.001)	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.037**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0011**	**0.0065**	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.011**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	**0.0014**	**0.280**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.0040**	**0.0016**	**0.002**	**0.0024**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.016**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0021**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	ND (0.001)	**0.0091**	**0.068**	ND (0.0007)	**0.00057**	ND (0.0015)	**0.0044**	**0.011**	**0.0078**	**0.0033**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.180**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	**0.0031**	**0.130**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.0014**	**0.0062**	**0.004**	**0.0017**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.048**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	**0.0019**	**0.0077**	**0.130**	ND (0.0007)	**0.00095**	**0.0018**	**0.0024**	**0.022**	**0.022**	**0.0072**	**0.002**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.270**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0017**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2023	ND (0.001)	**0.0042**	**0.130**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.0032**	**0.0065**	**0.0059**	**0.0061**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.044**	ND (0.010)	ND (0.010)	**ND (0.010)**	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	**ND (0.010)**	ND (0.010)	**ND (0.010)**	**ND (0.010)**
	1/12/2024	Not Sampled																												
	4/10/2024	ND (0.002)	**0.0036**	**0.051**	**0.0035**	**0.0028**	ND (0.004)	**0.037**	**0.039**	**0.044**	**0.064**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.590**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	8/6/2024	ND (0.002)	ND (0.002)	**0.130**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.0061**	**0.0027**	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.025**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
RIDEM GA Groundwater Objectives		**0.006**	**0.01**	**2**	**0.004**	**0.005**	**0.1**	**NS**	**NS**	**0.015**	**0.1**	**0.05**	**NS**	**0.002**	**NS**	**NS**	**NS**	**0.075**	**0.005**	**0.1**	**NS**	**NS**	**0.07**	**NS**	**NS**	**NS**	**0.005**	**0.1**	**0.005**	**0.002**

Notes: All units in mg/L = milligrams per liter
NS = No Standard
ND = not detected above method detection limit
Highlighted Exceeds RIDEM GA Groundwater Objective

Table 2

Groundwater Analytical Results
Park Avenue, Portsmouth, Rhode Island

Well ID	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	1,1-Dichloroethane	1,4-Dichlorobenzene	Benzene	Chlorobenzene	Chloroethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Diethyl Ether	Isopropylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene (TCE)	Vinyl Chloride
MW-3	5/31/2017	ND (0.025)	ND (0.002)	**0.681**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.002)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.010)	**0.035**	ND (0.0010)	**0.0011**	ND (0.0010)	**0.0040**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0011**	**0.0240**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/2017	ND (0.002)	ND (0.002)	**0.606**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.027**	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0026**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0014**	**0.0025**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	12/21/2017	ND (0.002)	ND (0.002)	**1.01**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.025**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	ND (0.025)	ND (0.0010)	**0.0010**	ND (0.0010)	**0.0029**	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0073**	**0.0017**	**0.0191**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/13/2018	ND (0.0005)	ND (0.006)	**0.460**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	**0.029**	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	**0.0012**	ND (0.0010)	**0.0082**	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0051**	ND (0.0010)	**0.0117**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/31/2018	ND (0.0005)	ND (0.010)	**0.654**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0036**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2018	ND (0.001)	ND (0.002)	**0.607**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.027**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0024**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0012**	**0.0020**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2019	ND (0.002)	ND (0.002)	**0.519**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0002)	ND (0.010)	ND (0.025)	ND (0.0010)	**0.0013**	ND (0.0010)	**0.0053**	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0068**	ND (0.0010)	**0.0050**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/12/2019	ND (0.001)	ND (0.002)	**0.506**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	**0.016**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0044**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0013**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2019	ND (0.001)	ND (0.002)	**0.482**	ND (0.0005)	**0.0027**	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.030**	ND (0.0010)	**0.0010**	ND (0.0010)	**0.0037**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0011**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2019	ND (0.001)	**0.004**	**0.470**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.043**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0036**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/15/2020	ND (0.001)	ND (0.002)	**0.561**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0033**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0011**	**0.0036**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/23/2020	ND (0.001)	ND (0.002)	**0.086**	**0.0007**	ND (0.0025)	ND (0.010)	**0.022**	ND (0.010)	ND (0.010)	**0.057**	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.309**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.001**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/30/2020	ND (0.001)	ND (0.002)	**0.225**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.145**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0022**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2020	ND (0.001)	ND (0.002)	**0.175**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.114**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0025**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/5/2021	ND (0.001)	ND (0.002)	**0.292**	**0.0019**	ND (0.0025)	ND (0.010)	**0.086**	**0.015**	ND (0.010)	**0.129**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.840**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0017**	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0023**	ND (0.0010)	**0.0034**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/7/2021	ND (0.001)	ND (0.002)	**0.394**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.075**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0023**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0024**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/27/2021	ND (0.001)	ND (0.002)	**0.054**	ND (0.0005)	ND (0.0025)	ND (0.010)	**0.011**	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.083**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0016**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2021	ND (0.002)	ND (0.002)	**0.072**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.032**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0017**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/19/2022	ND (0.002)	ND (0.002)	**0.045**	**0.0008**	ND (0.0025)	ND (0.010)	**0.021**	ND (0.010)	ND (0.010)	**0.035**	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.177**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0016**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	ND (0.025)	ND (0.0005)	**0.0059**	ND (0.010)	**0.031**	ND (0.010)	ND (0.010)	**0.033**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.198**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	**0.0043**	**0.039**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.012**	**0.0018**	**0.0032**	**0.0068**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.037**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0017**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	**0.0039**	**0.120**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00059**	**0.0031**	**0.0012**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.035**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0018**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.018**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	ND (0.001)	ND (0.001)	**0.027**	**0.0030**	**0.0023**	ND (0.0015)	**0.076**	**0.014**	**0.0048**	**0.100**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.570**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	ND (0.001)	**0.034**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.029**	**0.0035**	**0.0064**	**0.036**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.130**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0013**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	ND (0.001)	**0.0016**	**0.110**	**0.0012**	**0.00052**	**0.0015**	**0.014**	**0.010**	**0.022**	**0.019**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.110**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2023	**0.0018**	ND (0.001)	**0.061**	**0.0018**	**0.0023**	ND (0.0015)	**0.076**	**0.017**	**0.011**	**0.130**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.620**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/12/2024	ND (0.002)	ND (0.002)	**0.035**	**0.0030**	**0.0028**	ND (0.004)	**0.044**	**0.022**	**0.015**	**0.084**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.610**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/10/2024	ND (0.002)	**0.0053**	**0.100**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.0079**	**0.0036**	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.039**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	8/6/2024	ND (0.002)	ND (0.002)	**0.029**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.035**	**0.0063**	**0.0042**	**0.023**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.110**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-4	5/31/2017	ND (0.025)	ND (0.002	**0.050**	ND (0.0005)	**0.0043**	ND (0.010)	ND (0.010)	**0.057**	ND (0.002)	**0.042**	ND (0.005)	ND (0.005)	ND (0.002)	ND (0.010)	**1.53**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/2017	ND (0.002)	ND (0.002)	**0.030**	ND (0.0005)	**0.0025**	ND (0.010)	ND (0.010)	**0.021**	ND (0.002)	**0.021**	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.562**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0014**	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	12/21/2017	ND (0.002)	ND (0.002)	**0.040**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.017**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.264**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/13/2018	ND (0.002)	ND (0.005)	**0.0490**	ND (0.0005)	**0.0036**	ND (0.010)	ND (0.010)	**0.043**	ND (0.010)	**0.055**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.90**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/31/2018	ND (0.0005)	ND (0.010)	**0.032**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.031**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.806**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2018	ND (0.001)	ND (0.002)	**0.070**	ND (0.0005)	**0.0044**	ND (0.010)	ND (0.010)	**0.052**	ND (0.010)	**0.036**	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.50**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2019	ND (0.002)	ND (0.002)	**0.060**	ND (0.0005)	**0.0030**	ND (0.010)	ND (0.010)	**0.062**	ND (0.010)	**0.059**	ND (0.005)	ND (0.005)	ND (0.0002)	ND (0.010)	**1.88**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/12/2019	ND (0.001)	ND (0.002)	**0.047**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.034**	ND (0.010)	**0.038**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.34**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2019	ND (0.001)	ND (0.002)	**0.057**	ND (0.0005)	**0.0063**	ND (0.010)	ND (0.010)	**0.052**	ND (0.01)	**0.046**	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.53**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/30/2019	ND (0.001)	ND (0.002)	**0.470**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.01)	ND (0.01)	ND (0.025)	ND (0.005)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.043**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0036**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/15/2020	ND (0.001)	ND (0.002)	**0.069**	ND (0.0005)	**0.0040**	ND (0.010)	ND (0.010)	**0.069**	ND (0.010)	**0.070**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**2.41**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0014**	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/23/2020	ND (0.001)	ND (0.002)	**0.063**	ND (0.0005)	**0.0033**	ND (0.010)	ND (0.010)	**0.073**	ND (0.010)	**0.061**	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**2.06**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0011**	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/30/2020	ND (0.001)	ND (0.002)	ND (0.025)	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.033**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.00**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2020	ND (0.001)	ND (0.002)	**0.043**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.036**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**1.23**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0013**	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/5/2021	ND (0.001)	ND (0.002)	**0.062**	ND (0.0005)	**0.0037**	ND (0.010)	ND (0.010)	**0.065**	ND (0.010)	**0.064**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**2.12**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0014**	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/7/2021	ND (0.001)	ND (0.002)	**0.028**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.058**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0010)	ND (0.010)	**0.85**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/27/2021	ND (0.001)	ND (0.002)	**0.046**	ND (0.0005)	**0.0034**	ND (0.010)	ND (0.010)	**0.038**	ND (0.010)	**0.029**	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**1.21**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/19/2021	ND (0.002)	ND (0.002)	**0.074**	ND (0.0005)	**0.0052**	ND (0.010)	ND (0.010)	**0.076**	**0.2611**	**0.049**	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**1.69**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/19/2022	ND (0.002)	ND (0.002)	**0.046**	ND (0.0005)	**0.0047**	ND (0.010)	ND (0.010)	**0.102**	ND (0.010)	**0.035**	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**1.36**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	**0.053**	ND (0.0005)	**0.0070**	ND (0.010)	ND (0.010)	**0.081**	ND (0.010)	**0.046**	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**1.82**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	ND (0.001)	**0.062**	ND (0.0007)	**0.0041**	ND (0.0015)	**0.00038**	**0.058**	**0.0031**	**0.027**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**1.50**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	ND (0.001)	**0.050**	ND (0.0007)	**0.0034**	ND (0.0015)	**0.00045**	**0.065**	**0.0027**	**0.036**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**1.40**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	**0.0013**	ND (0.001)	**0.064**	ND (0.0007)	**0.0046**	ND (0.0015)	**0.00059**	**0.082**	**0.0041**	**0.061**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**2.20**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0012**	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	ND (0.001)	**0.045**	ND (0.0007)	**0.0030**	ND (0.0015)	**0.00043**	**0.085**	**0.0036**	**0.045**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**1.50**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	**0.0011**	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	ND (0.001)	ND (0.001)	**0.027**	ND (0.0007)	**0.0028**	**0.0016**	**0.00063**	**0.061**	**0.018**	**0.024**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.930**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/4/2023	**0.0012**	ND (0.001)	**0.070**	ND (0.0007)	**0.0056**	ND (0.0015)	**0.0011**	**0.130**	**0.011**	**0.052**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**1.800**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/12/2024	ND (0.002)	ND (0.002)	**0.022**	ND (0.0008)	**0.0022**	ND (0.004)	ND (0.004)	**0.029**	**0.0017**	**0.020**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.830**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/10/2024	ND (0.002)	ND (0.002)	**0.036**	ND (0.0008)	**0.002**	ND (0.004)	ND (0.004)	**0.034**	**0.0036**	**0.029**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.840**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2024	ND (0.002)	ND (0.002)	**0.044**	ND (0.0008)	**0.002**	ND (0.004)	ND (0.004)	**0.039**	**0.0036**	**0.027**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**1.200**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
RIDEM GA Groundwater Objectives		**0.006**	**0.01**	**2**	**0.004**	**0.005**	**0.1**	**NS**	**NS**	**0.015**	**0.1**	**0.05**	**NS**	**0.002**	**NS**	**NS**	**NS**	**0.075**	**0.005**	**0.1**	**NS**	**NS**	**0.07**	**NS**	**NS**	**NS**	**0.005**	**0.1**	**0.005**	**0.002**

Notes: All units in mg/L = milligrams per liter
NS = No Standard
ND = not detected above method detection limit
Highlighted Exceeds RIDEM GA Groundwater Objective

Table 2

Groundwater Analytical Results
Park Avenue, Portsmouth, Rhode Island

Well ID	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	1,1-Dichloroethane	1,4-Dichlorobenzene	Benzene	Chlorobenzene	Chloroethane	Chloroform	cis-1,2-Dichloroethene	Dichlorodifluoromethane	Diethyl Ether	Isopropylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene (TCE)	Vinyl Chloride
MW-5	1/19/2022	ND (0.002)	**0.006**	**0.095**	ND (0.0005)	ND (0.0025)	**0.013**	**0.014**	**0.025**	**0.038**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.106**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	**0.041**	ND (0.0005)	ND (0.00050)	ND (0.010)	ND (0.010)	**0.013**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.042**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	**0.0085**	**0.180**	ND (0.0007)	**0.00052**	**0.021**	**0.014**	**0.049**	**0.110**	**0.024**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.210**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	ND (0.001)	**0.036**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.00053**	**0.0065**	**0.0014**	**0.0014**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.013**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	ND (0.001)	**0.0012**	**0.043**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.0061**	**0.0082**	**0.0042**	**0.0049**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.038**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	**0.0013**	**0.140**	ND (0.0007)	ND (0.00050)	ND (0.0015)	**0.0230**	**0.0022**	**0.0017**	**0.0076**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.013**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	ND (0.001)	**0.0087**	**0.120**	ND (0.0007)	**0.00068**	**0.021**	**0.0160**	**0.086**	**0.120**	**0.024**	**0.0010**	ND (0.0005)	ND (0.0002)	**0.028**	**0.190**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/4/2023	ND (0.001)	**0.004**	**0.055**	ND (0.0007)	ND (0.00050)	**0.0052**	**0.0079**	**0.021**	**0.017**	**0.0087**	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.0066**	**0.047**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/12/2024	ND (0.002)	ND (0.002)	**0.034**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.0084**	**0.0039**	ND (0.004)	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.021**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/10/2024	ND (0.002)	ND (0.002)	**0.260**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.045**	ND (0.004)	**0.0012**	**0.01**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.021**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2024	ND (0.002)	ND (0.002)	**0.043**	ND (0.0008)	**0.0024**	ND (0.004)	ND (0.004)	**0.037**	**0.0035**	**0.028**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**1.200**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-6	1/19/2022	ND (0.002)	ND (0.002)	**0.351**	ND (0.0005)	ND (0.0025)	ND (0.010)	ND (0.010)	**0.017**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.115**	ND (0.0010)	**0.0018**	**0.0019**	**0.0048**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0036**	**0.0099**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	ND (0.002)	**0.180**	ND (0.0005)	**0.0056**	ND (0.010)	ND (0.010)	**0.016**	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.157**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0023**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0013**	**0.0024**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	ND (0.001)	**0.320**	ND (0.0007)	ND (0.0005)	**0.0016**	**0.0011**	**0.0016**	**0.0025**	**0.0028**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.021**	ND (0.0010)	**0.0016**	**0.0013**	**0.0045**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0013**	**0.0071**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	**0.0015**	**0.390**	ND (0.0007)	ND (0.0005)	**0.0024**	**0.0014**	**0.0078**	**0.0098**	**0.0042**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.037**	ND (0.0010)	**0.0012**	**0.0015**	**0.0042**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	**0.0021**	**0.0044**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	**0.0014**	ND (0.001)	**0.160**	ND (0.0007)	**0.00086**	**0.002**	**0.0028**	**0.023**	**0.0074**	**0.015**	**0.040**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.150**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0013**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0014**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/4/2023	ND (0.001)	**0.0016**	**0.150**	ND (0.0007)	**0.00077**	**0.0035**	**0.0027**	**0.024**	**0.045**	**0.015**	**0.0058**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.150**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0020**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0011**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	**0.0015**	**0.0031**	**0.200**	ND (0.0007)	**0.0011**	**0.011**	**0.0025**	**0.056**	**0.068**	**0.011**	**0.0076**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.180**	ND (0.0010)	**0.0011**	ND (0.0010)	**0.0033**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/4/2023	ND (0.001)	ND (0.001)	**0.200**	ND (0.0007)	**0.00053**	**0.0029**	**0.0018**	**0.026**	**0.0065**	**0.013**	**0.0097**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.100**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0013**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/12/2024	**0.0028**	**0.0037**	**0.061**	ND (0.0008)	ND (0.002)	**0.014**	**0.0053**	**0.062**	**0.046**	**0.017**	**0.0340**	ND (0.002)	ND (0.0008)	**0.0047**	**0.250**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/10/2024	ND (0.002)	ND (0.002)	**0.068**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.027**	**0.0099**	**0.010**	**0.030**	ND (0.002)	ND (0.0008)	ND (0.004)	**0.140**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2024	ND (0.002)	ND (0.002)	**0.240**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.019**	**0.0084**	**0.0013**	**0.009**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.097**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0018**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0013**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-7	1/19/2022	ND (0.002)	**0.023**	**0.212**	ND (0.0005)	ND (0.0025)	**0.020**	ND (0.010)	**0.031**	**0.015**	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.056**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0069**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	**0.008**	**0.099**	ND (0.0005)	**0.0051**	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.122**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0013**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0120**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/19/2022	ND (0.001)	**0.0092**	**0.160**	ND (0.0007)	ND (0.0005)	**0.0074**	**0.0039**	**0.0083**	**0.0043**	**0.0054**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.0018**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0092**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/5/2022	ND (0.001)	**0.0050**	**0.140**	ND (0.0007)	ND (0.0005)	**0.0033**	**0.0015**	**0.0021**	ND (0.0010)	**0.0017**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0051**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	1/9/2023	ND (0.001)	**0.0031**	**0.110**	ND (0.0007)	**0.00060**	**0.0041**	**0.0040**	**0.013**	**0.0065**	**0.0087**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.170**	ND (0.0050)	ND (0.0050)	ND (0.0010)	ND (0.0050)	ND (0.010)	ND (0.0050)	ND (0.0050)	ND (0.010)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
	4/4/2023	ND (0.001)	**0.0065**	**0.110**	ND (0.0007)	ND (0.0005)	**0.0033**	**0.0051**	**0.0077**	**0.0062**	**0.0095**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.069**	ND (0.0050)	ND (0.0050)	ND (0.0050)	**0.0010**	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.010)	ND (0.0010)	**0.0091**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/17/2023	ND (0.001)	**0.0042**	**0.100**	ND (0.0007)	**0.0030**	**0.010**	**0.0097**	**0.058**	**0.024**	**0.016**	**0.016**	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.450**	ND (0.0050)	ND (0.0050)	ND (0.0050)	**0.0010**	ND (0.010)	ND (0.0010)	ND (0.0010)	ND (0.010)	ND (0.0010)	**0.0091**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	10/4/2023	ND (0.001)	**0.0073**	**0.160**	ND (0.0007)	**0.00099**	**0.015**	**0.0072**	**0.029**	**0.016**	**0.010**	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.0067**	**0.100**	ND (0.010)	ND (0.010)	**ND (0.010)**	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
	1/12/2024	ND (0.002)	ND (0.002)	**0.140**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.018**	**0.044**	**0.035**	**0.036**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.470**	ND (0.010)	ND (0.010)	**ND (0.010)**	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
	4/10/2024	ND (0.002)	ND (0.002)	**0.120**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.012**	**0.018**	**0.031**	**0.028**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.100**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	7/29/2024	ND (0.002)	**0.0033**	**0.240**	ND (0.0008)	ND (0.002)	**0.011**	ND (0.004)	**0.042**	**0.043**	**0.014**	**0.017**	ND (0.002)	ND (0.0008)	ND (0.004)	**0.130**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.0033**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-8	1/19/2022	ND (0.002)	**0.012**	**0.079**	ND (0.0005)	ND (0.0025)	ND (0.010)	**0.011**	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0002)	ND (0.010)	**0.129**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	ND (0.0020)	ND (0.0010)	**0.126**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	4/19/2022	ND (0.001)	**0.005**	**0.069**	ND (0.0005)	**0.0069**	ND (0.010)	**0.019**	ND (0.010)	ND (0.010)	ND (0.025)	ND (0.025)	ND (0.005)	ND (0.0005)	ND (0.010)	**0.178**	**0.0024**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0024**	ND (0.0010)	**0.115**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0042**	**0.0015**	**0.0246**
	7/19/2022	ND (0.001)	**0.0077**	**0.085**	ND (0.0007)	ND (0.0005)	**0.0038**	**0.015**	**0.0049**	**0.0046**	**0.012**	ND (0.001)	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.140**	**0.0020**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0030**	ND (0.0010)	**0.089**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0038**	**0.0011**	**0.020**
	10/5/2022	ND (0.001)	**0.0076**	**0.084**	ND (0.0007)	ND (0.0005)	ND (0.0015)	**0.010**	**0.0016**	**0.0014**	**0.0063**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.076**	**0.0028**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0023**	ND (0.0010)	**0.066**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0060**	ND (0.0010)	**0.025**
	1/9/2023	ND (0.001)	**0.0062**	**0.086**	ND (0.0007)	ND (0.0005)	ND (0.0015)	**0.009**	**0.0025**	**0.0015**	**0.0062**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.051**	**0.0022**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.038**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0021**	**0.0015**	**0.016**
	4/4/2023	ND (0.001)	**0.011**	**0.089**	ND (0.0007)	ND (0.0005)	**0.0053**	**0.014**	**0.0094**	**0.0120**	**0.014**	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.0065**	**0.190**	**0.0018**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0022**	ND (0.0010)	**0.020**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0010**	ND (0.0010)	**0.010**
	7/17/2023	ND (0.001)	**0.0078**	**0.062**	ND (0.0007)	ND (0.0005)	**0.0043**	**0.011**	**0.029**	**0.012**	**0.012**	ND (0.001)	ND (0.0005)	ND (0.0002)	ND (0.004)	**0.160**	**0.0022**	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0033**	ND (0.0010)	**0.020**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0012**	**0.0011**	**0.011**
	10/4/2023	ND (0.001)	**0.017**	**0.140**	**0.0014**	**0.00050**	**0.035**	**0.110**	**0.043**	**0.032**	**0.074**	ND (0.001)	ND (0.0005)	ND (0.0002)	**0.0034**	**0.440**	ND (0.010)	ND (0.010)	**ND (0.010)**	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.020)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
	1/12/2024	ND (0.002)	**0.011**	**0.082**	ND (0.0008)	ND (0.002)	**0.0046**	**0.032**	**0.014**	**0.0098**	**0.024**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.210**	**0.0014**	ND (0.010)	ND (0.0010)	ND (0.0010)	**0.0022**	ND (0.0010)	**0.016**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0013**	**0.0063**
	4/10/2024	ND (0.002)	**0.008**	**0.072**	ND (0.0008)	ND (0.002)	ND (0.004)	**0.017**	**0.004**	**0.0019**	**0.0095**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.180**	**0.0016**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0020)	ND (0.0010)	**0.025**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.013**
	7/29/2024	ND (0.002)	**0.0023**	**0.160**	ND (0.0008)	ND (0.002)	ND (0.004)	ND (0.004)	**0.0061**	**0.0035**	**0.0045**	ND (0.0025)	ND (0.002)	ND (0.0008)	ND (0.004)	**0.049**	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0029**	ND (0.0010)	**0.0069**	ND (0.0020)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	**0.0077**
RIDEM GA Groundwater Objectives		**0.006**	**0.01**	**2**	**0.004**	**0.005**	**0.1**	**NS**	**NS**	**0.015**	**0.1**	**0.05**	**NS**	**0.002**	**NS**	**NS**	**NS**	**0.075**	**0.005**	**0.1**	**NS**	**NS**	**0.07**	**NS**	**NS**	**NS**	**0.005**	**0.1**	**0.005**	**0.002**

Notes:
All units in mg/L = milligrams per liter
NS = No Standard
ND = not detected above method detection limit
Highlighted Exceeds RIDEM GA Groundwater Objective

Table 3
Soil Gas Monitoring Data
Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-1	5/30/2017	54	30.24	4	SE	0.0	20.5	0	20.5	0	0
	9/8/2017	72	30.03	5	S	0.0	19.2	0	19.1	0	0
	12/21/2017	32	30.24	8	NW	0.0	21.6	0	21.2	0	0
	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	21.6	0	0
	7/31/2018	85	30.14	1	S	0.0	19.4	0	19.4	0	0
	10/30/2018	50	29.97	8	SSE	0.0	20.9	0	20.8	0	0.1
	1/9/2019	43	29.38	5	S	0.0	20.8	0	20.8	0	0.1
	4/12/2019	49	30.10	6	NW	0.0	21.3	No flow, obstructed			
	4/25/2019	54	29.86	3	N	0.0	20.9	0	20.7	0	0
	7/29/2019	87	30.01	4	SE	0.0	21.9	Standpipe laying on ground. Tubing appeared intact but no flow.			
	10/30/2019	67	30.36	0	---	0.0	20.2	Standpipe repaired			
	1/15/2020	44	30.17	6	S	0.0	21.2	0	21.2	0	0
	4/23/2020	46	30.05	5	S	0.0	20.8	0	20.8	0	0
	7/30/2020	78	29.86	5	S	0.0	20.0	0	20.0	0	0
	10/19/2020	67	30.23	4	S	0.0	20.8	0	20.8	0	0
	1/5/2021	32	29.75	8	E	0.0	20.1	0	20.1	0	0
	4/7/2021	55	29.83	6	E	0.0	19.2	0	19.2	0	0
	7/27/2021	81	29.95	5	SE	0.0	20.3	0	20.0	0	0.4
	10/19/2021	50	29.88	11	W	0.0	20.8	0	20.6	0	0
	1/19/2022	35	29.95	6	S	0.0	22.0	0	22.0	0	0
	4/19/2022	50	29.49	10	SW	0.0	21.0	0	21.0	0	0
	7/19/2022	80	29.67	2	SW	0.0	20.3	0	20.3	0	0
	10/5/2022	54	29.85	5	E	0.0	20.9	0	20.9	0	0
	1/9/2023	34	29.84	3	S	0.0	21.2	0	21.2	0	0
	4/4/2023	51	30.05	2	SE	0.0	22.0	0	22.0	0	0
	7/17/2023	70	29.88	2	S	0.0	20.2	0	20.2	0	0
	10/4/2023	71	30.15	7	NW	0.0	20.6	0	20.4	0	0
	1/12/2024	44	30.08	5	W	0.0	21.8	0	21.6	0	0
	4/10/2024	50	30.50	2	SE	0.0	20.3	0	20.3	0	0
	7/29/2024	64	29.98	5	W	0.0	20.5	0	20.5	0	0
SG-2	5/30/2017	56	30.22	6	SE	0.0	20.6	0	20.6	0	0
	9/8/2017	72	30.03	8	S	0.0	19.4	0	19.3	0	0
	12/21/2017	32	30.24	10	NW	0.0	21.6	0	21.4	0	0
	4/13/2018	72	30.03	8	S	0.0	19.4	0	19.3	0	0
	7/31/2018	85	30.15	12	SW	0.0	19.8	0	19.7	0	0.1
	10/30/2018	50	29.95	8	SE	0.0	21.1	0	20.9	0	0.1
	1/9/2019	43	29.34	10	S	0.0	21.2	0	21.2	0	0
	4/12/2019	49	30.10	7	NE	0.0	21.2	0	21.2	0	0.2
	7/29/2019	99	30.04	3	S	0.0	21.8	0.1	21.6	0	0.2
	10/30/2019	67	30.36	0	---	0.0	20.2	0	20.6	0	0.1
	1/15/2020	45	30.14	5	S	0.0	21.3	0	21.2	0	0
	4/23/2020	49	29.99	3	S	0.0	20.8	0	20.8	0	0
	7/30/2020	80	28.86	10	S	0.0	20.4	0	20.4	0	0
	10/19/2020	65	30.23	2	S	0.0	20.9	0	20.9	0	0
	1/5/2021	32	29.75	3	E	0.0	20.1	0	20.1	0	0
	4/7/2021	56	29.91	4	E	0.0	20.8	0	20.8	0	0
	7/27/2021	84	29.95	8	SE	0.0	20.5	0	20.5	0	0
	10/19/2021	50	29.86	12	W	0.0	20.8	0	20.4	0	0
	1/19/2022	35	29.95	6	S	0.0	22.2	0	19.9	0	0
	4/19/2022	50	29.50	10	SW	0.0	21.0	0	19.8	0	0
	7/19/2022	78	29.67	4	SW	0.0	20.3	0	20.3	0	0
	10/5/2022	54	29.85	4	E	0.0	20.9	0	20.9	0	0
	1/9/2023	35	29.84	3	S	0.0	21.7	0	21.7	0	0
	4/4/2023	50	30.04	2	SE	0.0	22.0	0	22.0	0	0
	7/17/2023	70	29.88	2	S	0.0	20.2	0	20.2	0	0
	10/4/2023	71	30.15	5	NW	0.0	20.6	0	20.1	0	0
	1/12/2024	43	30.08	5	W	0.0	21.8	0	21.6	0	0
	4/10/2024	50	30.50	3	SE	0.0	20.3	0	20.1	0	0
	7/29/2024	63	29.98	4	W	0.0	20.5	0	19.9	0	0.6

Lower explosive limit (LEL) of methane (CH4) is 5%

Landfill gases measured using a Landtech Gem 2000 Plus or 5000 Plus Landfill Gas Monitor

ATLAS

Table 3
Soil Gas Monitoring Data
Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-3	5/30/2017	56	30.22	6	SE	0.0	20.4	9.7	1.3	0	12.5
	9/8/2017	73	30.04	4	SE	0.0	19.7	4.1	11.7	0	5.0
	12/21/2017	32	30.24	10	NW	0.0	21.6	4.6	7.8	0	9.0
	4/13/2018	73	30.04	4	SE	0.0	19.7	4.1	11.7	0	5.0
	7/31/2018	85	30.16	12	SW	0.0	19.7	7.7	5.2	2	10.4
	10/30/2018	51	29.95	10	SSE	0.0	21.8	13.5	0.2	4	2.0
	1/9/2019	42	29.33	12	S	0.0	21.3	16.0	0.0	4	11.7
	4/12/2019	50	30.10	6	N	0.0	20.9	3.6	0.1	1	11.1
	7/29/2019	109	30.05	2	S	0.0	21.6	15.4	0.6	4	11.9
	10/30/2019	67	30.36	0	---	0.0	20.9	10.7	0.2	4	14.4
	1/15/2020	45	30.13	2	S	0.0	21.2	3.0	12.4	1.1	4.8
	4/23/2020	52	29.95	5	S	0.0	21.3	0	21.2	0	0
	7/30/2020	83	29.86	5	S	0.0	20.6	0.1`	20.5	0	0
	10/19/2020	64	30.23	1	S	0.0	21.2	2.7	12.6	2	6.1
	1/5/2021	32	29.75	5	E	0.0	20.1	0	20.1	0	0
	4/7/2021	60	29.91	3	E	0.0	21.7	2.6	13.4	1	3.9
	7/27/2021	86	29.95	9	S	0.0	20.6	0	20.5	0	0
	10/19/2021	52	29.85	10	W	0.0	20.8	15.8	0.3	6	14.1
	1/19/2022	34	29.96	8	S	0.0	22.3	0	22.3	0	0
	4/19/2022	50	29.49	17	SW	0.0	21.2	0	21.1	0	0
	7/19/2022	78	29.67	4	SW	0.0	20.4	0	20.3	0	0.4
	10/5/2022	55	29.85	3	E	0.0	20.9	3.4	13.2	0	5.7
	1/9/2023	35	29.84	3	S	0.0	21.7	0	21.7	0	0
	4/4/2023	50	30.04	2	SE	0.0	22.0	0	21.5	0	0
	7/17/2023	74	29.88	3	S	0.0	20.4	0	20.1	0	0
	10/4/2023	68	30.15	5	NW	0.0	20.6	18.2	2.0	4	14.3
	1/12/2024	43	30.08	5	W	0.0	21.8	21.8	6.4	8	8.2
	4/10/2024	50	30.50	5	SE	0.0	20.3	9.5	1.1	10	8.8
	7/29/2024	63	29.98	3	W	0.0	20.5	2.5	7.0	7	4.5
SG-4	5/30/2017	56	30.20	8	SE	0.0	20.1	0	19.6	0	0.2
	9/8/2017	73	30.05	6	SE	0.0	19.2	0	18.5	0	0.4
	12/21/2017	32	30.24	6	NW	0.0	21.6	0	21.0	0	0.5
	4/13/2018	73	30.05	6	SE	0.0	19.2	0	18.5	0	0.4
	7/31/2018	85	30.13	1	S	0.0	19.7	0	19.3	0	0.4
	10/30/2018	55	29.96	14	SSE	0.0	21.7	0	18.8	0	15.3
	1/9/2019	43	29.34	10	S	0.0	21.6	0	18.7	0	2.1
	4/12/2019	47	30.10	5	N	0.0	20.7	0	19.9	0	1.4
	7/29/2019	104	30.03	0	SE	0.0	21.3	0	20.3	0	0.9
	10/30/2019	67	30.37	0	---	0.0	21.0	0	18.7	0	1.2
	1/15/2020	44	30.12	2	S	0.0	21.2	0	20.5	0	1.3
	4/23/2020	53	29.97	1	S	0.0	21.1	0	20.7	0	0.4
	7/30/2020	83	29.87	12	S	0.0	20.6	0	20.6	0	0.8
	10/19/2020	60	30.23	2	S	0.0	21.2	0	20.6	0	0.5
	1/5/2021	32	29.75	2	E	0.0	20.1	0	20.1	0	0
	4/7/2021	60	29.91	5	E	0.0	21.6	0	21.3	0	0.3
	7/27/2021	89	29.60	2	SW	0.0	20.7	0	20.7	0	0.3
	10/19/2021	53	29.85	8	W	0.0	20.9	0	20.2	0	1.5
	1/19/2022	34	29.97	5	S	0.0	21.3	0	21.3	0	0
	4/19/2022	50	29.49	20	SW	0.0	21.0	0	20.0	0	1.8
	7/19/2022	80	29.65	3	SW	0.0	20.4	0	20.4	0	0
	10/5/2022	42	29.85	2	E	0.0	20.9	0	18.5	0	0.5
	1/9/2023	34	29.84	2	S	0.0	21.7	0	21.7	0	0.3
	4/4/2023	49	30.04	3	SE	0.0	22.1	0	22.0	0	0
	7/17/2023	72	29.88	3	S	0.0	20.2	0	20.1	0	0
	10/4/2023	65	30.15	3	NW	0.0	21.3	0	21.0	0	0.2
	1/12/2024	40	30.08	2	W	0.0	21.6	0	19.4	0	0.7
	4/10/2024	50	30.50	4	SE	0.0	20.3	0	20.3	0	0
	7/29/2024	63	29.98	2	W	0.0	20.5	0	20.5	0	0

Lower explosive limit (LEL) of methane (CH4) is 5%

Landfill gases measured using a Landtech Gem 2000 Plus or 5000 Plus Landfill Gas Monitor

Table 3
Soil Gas Monitoring Data
Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-5	1/19/2022	32	30.00	5	S	0.0	21.6	0	21.6	0	0
	4/19/2022	50	29.50	19	SW	0.0	21.4	0	17.9	0	2.0
	1/12/2024	44	30.08	5	W	0.0	21.8	0	21.5	0	0
	4/10/2024	50	30.50	8	SE	0.0	20.3	0	11.8	0	4.1
	7/29/2024	64	29.98	4	W	0.0	20.5	0	19.7	0	3.7
SG-6	1/19/2022	33	30.00	2	S	0.0	21.8	0	18.8	0	1.7
	4/19/2022	50	29.49	18	SW	0.0	21.0	0	18.0	0	1.8
	7/19/2022	78	29.65	5	SW	0.0	20.4	0	16.2	0	4.7
	10/5/2022	46	29.85	4	E	0.0	21.0	0	15.8	0	6.3
	1/9/2023	35	29.84	3	S	0.0	21.8	0	20.2	0	1.6
	4/4/2023	49	30.04	4	SE	0.0	22.0	0	21.5	0	0.6
	7/17/2023	73	29.88	3	S	0.0	20.4	0	19.1	0	0.7
	10/4/2023	68	30.15	3	NW	0.0	20.8	0	18.0	0	2.5
	1/12/2024	41	30.08	5	W	0.0	21.9	0	19.5	0	1.5
	4/10/2024	50	30.50	4	SE	0.0	20.3	0	19.1	0	1.0
	7/29/2024	64	29.98	4	W	0.0	20.5	0	17.3	0	3.8
SG-7	1/19/2022	34	29.97	5	S	0.0	22.3	0	20.8	0	1.3
	4/19/2022	50	29.49	20	SW	0.0	21.0	0	18.3	0	1.7
	7/19/2022	77	29.65	4	SW	0.0	20.5	0	19.9	0	0.7
	10/5/2022	42	29.85	2	E	0.0	21.0	0	12.0	0	9.0
	1/9/2023	34	29.84	3	S	0.0	21.7	0	18.7	0	2.2
	4/4/2023	49	30.04	2	SE	0.0	22.1	0	19.8	0	1.6
	7/17/2023	73	29.88	3	S	0.0	20.2	0	19.2	0	0.6
	10/4/2023	65	30.15	2	NW	0.0	21.0	0	12.4	0	7.5
	1/12/2024	41	30.08	2	W	0.0	21.6	0	18.6	0	2.8
	4/10/2024	50	30.50	4	SE	0.0	20.3	0	17.3	0	2.3
	7/29/2024	63	29.98	2	W	0.0	20.5	0	13.9	0	6.3
SG-8	1/19/2022	33	30.00	5	S	0.0	21.8	3.2	0.5	0	6.0
	4/19/2022	50	29.49	15	SW	0.0	21.4	4.4	0.1	0	7.6
	7/19/2022	85	29.67	5	SW	0.0	20.4	0	5.7	0	10.1
	10/5/2022	50	29.85	3	E	0.0	20.9	1.9	0.2	0	12.1
	1/9/2023	36	29.84	2	S	0.0	21.7	0.3	20.2	0	4.6
	4/4/2023	52	30.04	2	SE	0.0	22.0	0	11.5	0	3.4
	7/17/2023	76	29.88	3	S	0.0	20.4	4.7	0.1	0	11.5
	10/4/2023	68	30.15	6	NW	0.0	20.5	16.3	0.1	0	9.3
	1/12/2024	44	30.08	5	W	0.0	21.7	16.5	0.1	0	4.8
	4/10/2024	50	30.50	2	SE	0.0	20.3	5	0.7	1	5.1
	7/29/2024	64	29.98	3	W	0.0	20.5	0	6.8	0	11.1

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Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-3A	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	20.1	0	0.7
	7/31/2018	85	30.16	12	SW	0.0	19.9	0	17.0	0	3.3
	10/30/2018	51	29.96	7	SE	0.0	21.4	0	13.5	0	6.5
	1/9/2019	42	29.33	10	S	0.0	21.2	0	17.0	0	3.9
	4/12/2019	46	30.20	9	N	0.0	21.2	0	19.4	1	2.7
	7/29/2019	101	30.04	5	S	0.0	21.9	0.7	0.6	0	14.5
	10/30/2019	67	30.37	0	---	0.0	20.2	0	7.2	0	9.4
	1/15/2020	44	30.13	5	S	0.0	21.2	0	19.8	0	2.2
	4/23/2020	51	29.97	2	S	0.0	21.2	0	20.9	0.5	0.2
	7/30/2020	84	29.86	8	S	0.0	20.4	0	20.0	0	4.1
	10/19/2020	65	30.23	2	S	0.0	20.9	0	19.7	0	6.4
	1/5/2021	32	29.75	3	E	0.0	20.1	0	17.3	0	2.9
	4/7/2021	58	29.91	0	---	0.0	20.1	0	19.3	0	1.8
	7/27/2021	84	29.95	8	SE	0.0	20.8	0	20.2	0	3.9
	10/19/2021	52	29.85	9	W	0.0	20.9	0	18.6	0	3.5
	1/19/2022	39	29.96	6	S	0.0	20.9	0	18.9	0	2.0
	4/19/2022	50	29.49	16	SW	0.0	21.0	0	17.6	0	5.1
	7/19/2022	80	29.67	4	SW	0.0	20.4	0	17.0	0	8.5
	10/5/2022	55	29.85	5	E	0.0	21.0	0	19.8	0	6.0
	1/9/2023	36	29.84	2	S	0.0	21.7	0	21.0	0	9.9
	4/4/2023	50	30.05	2	SE	0.0	22.0	0	18.7	0	4.6
	7/17/2023	70	29.88	4	S	0.0	20.2	0	17.6	0	8.3
	Destroyed										
SG-3B	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	18.2	0	2.6
	7/31/2018	85	30.16	12	SW	0.0	19.9	0	10.3	0	8.6
	10/30/2018	51	29.95	7	SSE	0.0	21.5	0	15.3	0	6.0
	1/9/2019	42	29.33	15	S	0.0	21.1	0	15.9	0	5.0
	4/12/2019	48	30.20	7	NE	0.0	21.1	0	17.2	1	3.4
	7/29/2019	88	30.04	4	S	0.0	21.9	Inaccessible - Dense Vegetation			
	10/30/2019	67	30.34	0	---	0.0	20.6	0	7.4	0	10.9
	1/15/2020	44	30.13	5	S	0.0	21.2	0	18.1	0	2.9
	4/23/2020	51	29.97	5	S	0.0	21.2	0	20.7	0	0.6
	7/30/2020	84	29.86	10	S	0.0	20.4	0	20.1	0	0.9
	10/19/2020	65	30.23	3	S	0.0	20.9	0	20.6	0	3.3
	1/5/2021	32	29.75	5	E	0.0	20.1	0	16.6	0	3.5
	4/7/2021	58	29.91	3	E	0.0	21.3	0	17.0	0	2.8
	7/27/2021	84	29.95	8	SE	0.0	20.2	0	20.1	0	4.8
	10/19/2021	52	29.85	10	W	0.0	20.9	0	18.8	0	6.2
	Destroyed										

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Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-3C	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	17.6	0	3.3
	7/31/2018	85	30.16	12	SW	0.0	19.8	0	12.3	0	7.9
	10/30/2018	52	29.95	9	SSE	0.0	21.4	0	21.6	0	0.1
	1/9/2019	42	29.34	12	S	0.0	21.2	0	20.0	0	3.0
	4/12/2019	48	30.20	7	N	0.0	20.9	0	21.2	0	0.2
	7/29/2019	88	30.04	4	S	0.0	21.9	Inaccessible - Dense Vegetation			
	10/30/2019	67	30.37	0	---	0.0	20.7	0	20.9	0	0.1
	1/15/2020	44	30.12	2	S	0.0	21.2	0	21.0	0	0.1
	4/23/2020	52	29.97	2	S	0.0	21.2	0	20.4	0	2.5
	7/30/2020	85	29.87	7	S	0.0	20.4	0	19.8	0	2.0
	10/19/2020	65	30.23	3	S	0.0	20.9	0	20.7	0	1.8
	1/5/2021	33	29.75	3	E	0.0	20.1	0	18.6	0	2.1
	4/7/2021	60	29.91	6	E	0.0	21.3	0	19.0	0	2.6
	7/27/2021	86	29.95	9	S	0.0	20.7	0	20.3	0	3.0
	10/19/2021	52	29.85	7	W	0.0	20.9	0	20.0	0	1.7
	1/19/2022	38	29.96	4	S	0.0	20.9	0	19.1	0	1.8
	4/19/2022	50	29.49	18	SW	0.0	21.4	0	19.9	0	2.4
	7/19/2022	80	29.67	3	SW	0.0	20.4	0	18.5	0	3.0
	10/5/2022	56	29.85	5	E	0.0	21.0	0	20.4	0	1.6
	1/9/2023	36	29.84	3	S	0.0	21.7	0	20.6	0	6.6
	Destroyed										
SG-3D	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	20.7	0	0.8
	7/31/2018	85	30.16	12	SW	0.0	19.2	0	18.1	0	1.1
	10/30/2018	52	29.95	9	SE	0.0	21.9	0	20.1	0	1.7
	1/9/2019	41	29.34	10	S	0.0	21.2	0	19.5	0	1.0
	4/12/2019	50	30.30	6	N	0.0	20.8	0	19.9	0	1.3
	7/29/2019	88	30.04	4	S	0.0	21.9	0	20.6	0	1.2
	10/30/2019	67	30.37	0	---	0.0	21.0	0	19.4	0	1.2
	1/15/2020	45	30.13	2	S	0.0	21.2	0	20.6	0	1.0
	4/23/2020	52	29.95	3	S	0.0	21.3	0	20.1	0	1.2
	7/30/2020	85	29.87	5	S	0.0	20.4	0	19.6	0	1.7
	10/19/2020	66	30.23	3	S	0.0	20.9	0	20.2	0	1.0
	1/5/2021	33	29.75	6	E	0.0	20.4	0	19.9	0	1.0
	4/7/2021	60	29.91	5	E	0.0	21.8	0	20.6	0	0.8
	7/27/2021	86	29.95	9	S	0.0	20.5	0	20.2	0	0.7
	10/19/2021	52	29.85	10	W	0.0	20.8	0	19.2	0	2.0
	1/19/2022	39	29.96	5	S	0.0	20.9	0	20.2	0	0.6
	4/19/2022	50	29.49	20	SW	0.0	21.1	0	20.4	0	1.9
	7/19/2022	80	29.67	5	SW	0.0	20.4	0	19.7	0	2.1
	10/5/2022	56	29.85	4	E	0.0	21.0	0	20.1	0	1.8
	1/9/2023	36	29.84	2	S	0.0	21.7	0	19.1	0	0.9
	4/4/2023	50	30.05	2	SE	0.0	22.0	0	20.2	0	0.7
	7/17/2023	70	29.88	4	S	0.0	20.2	0	18.8	0	1.5
	10/4/2023	75	30.15	3	NW	0.0	20.5	0	19.2	0	3.3
	1/12/2024	44	30.08	6	W	0.0	21.6	0	18.4	0	2.6
	4/10/2024	50	30.50	5	SE	0.0	20.3	5	19.8	0	6.8
	7/29/2024	64	29.98	4	W	0.0	20.5	0	18.4	0	2.9

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		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-3E	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	14.9	0	5.4
	7/31/2018	85	30.16	12	SW	0.0	19.2	0	13.7	0	5.2
	10/30/2018	54	29.94	12	SSE	0.0	21.7	0	13.0	0	7.4
	1/9/2019	41	29.33	10	S	0.0	21.3	0	14.4	0	4.8
	4/12/2019	50	30.30	5	N	0.0	20.8	0	15.1	0	4.8
	7/29/2019	102	30.04	1	S	0.0	21.5	0	13.6	0	5.4
	10/30/2019	67	30.80	0	---	0.0	20.9	0	10.5	0	9.1
	1/15/2020	45	30.13	0	---	0.0	21.2	0	19.5	0	2.0
	4/23/2020	52	29.95	3	S	0.0	21.4	0	20.3	0	1.1
	7/30/2020	85	29.87	5	S	0.0	20.4	0	19.6	0	3.6
	10/19/2020	66	30.23	2	S	0.0	20.9	0	20.3	0	4.9
	1/5/2021	33	29.75	4	E	0.0	20.6	0	17.8	0	3.3
	4/7/2021	60	29.91	5	E	0.0	21.6	0	17.4	0	2.7
	7/27/2021	86	29.95	9	S	0.0	20.5	0	20.1	0	0
	10/19/2021	53	29.85	7	W	0.0	20.9	0	18.8	0	5.1
	1/19/2022	38	29.96	5	S	0.0	20.7	0	18.6	0	2.2
	4/19/2022	50	29.49	20	SW	0.0	21.1	0	14.7	0	5.2
	7/19/2022	80	29.67	8	SW	0.0	20.4	0	16.9	0	5.5
	10/5/2022	54	29.85	3	E	0.0	21.0	0	15.9	0	4.3
	1/9/2023	36	29.84	2	S	0.0	21.7	0	19.7	0	3.1
	4/4/2023	50	30.05	2	SE	0.0	22.0	0	19.4	0	3.8
	7/17/2023	70	29.88	3	S	0.0	20.2	0	16.2	0	2.4
	Destroyed										
SG-3F	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	19.4	0	2.2
	7/31/2018	85	30.16	12	SW	0.0	19.3	0	12.9	1	5.9
	10/30/2018	53	29.94	14	SE	0.0	21.8	0	5.2	0	12.8
	1/9/2019	41	29.33	12	S	0.0	21.3	0	19.0	0	5.1
	4/12/2019	49	30.30	4	NE	0.0	20.8	0	14.3	0	5.6
	7/29/2019	102	30.40	1	S	0.0	21.4	0.1	6	0	11.8
	10/30/2019	67	30.37	0	---	0.0	20.9	0	8.7	0	10.3
	1/15/2020	45	30.13	2	S	0.0	21.2	0	15.2	0	3.5
	4/23/2020	52	29.94	1	S	0.0	21.5	0	12.1	0	7.9
	7/30/2020	85	29.87	10	S	0.0	20.4	0	14.3	0	6.4
	10/19/2020	66	30.23	2	S	0.0	20.9	0	16.5	0	9.0
	1/5/2021	33	29.75	5	E	0.0	20.5	0	15.0	0	5.7
	4/7/2021	60	29.91	3	E	0.0	21.9	0	14.8	0	5.0
	7/27/2021	86	29.95	9	S	0.0	20.9	0	16.9	0	9.6
	10/19/2021	53	29.85	7	W	0.0	20.9	0	16.2	0	7.8
	1/19/2022	38	29.96	5	S	0.0	20.7	0	15.9	0	3.1
	4/19/2022	50	29.50	18	SW	0.0	21.1	0	19.0	0	2.1
	7/19/2022	80	29.67	5	SW	0.0	20.4	0	17.4	0	8.7
	10/5/2022	54	29.85	5	E	0.0	21.0	0	14.2	0	7.4
	1/9/2023	36	29.84	2	S	0.0	21.7	0	15.8	0	6.2
	Destroyed										

Lower explosive limit (LEL) of methane (CH4) is 5%

Landfill gases measured using a Landtech Gem 2000 Plus or 5000 Plus Landfill Gas Monitor

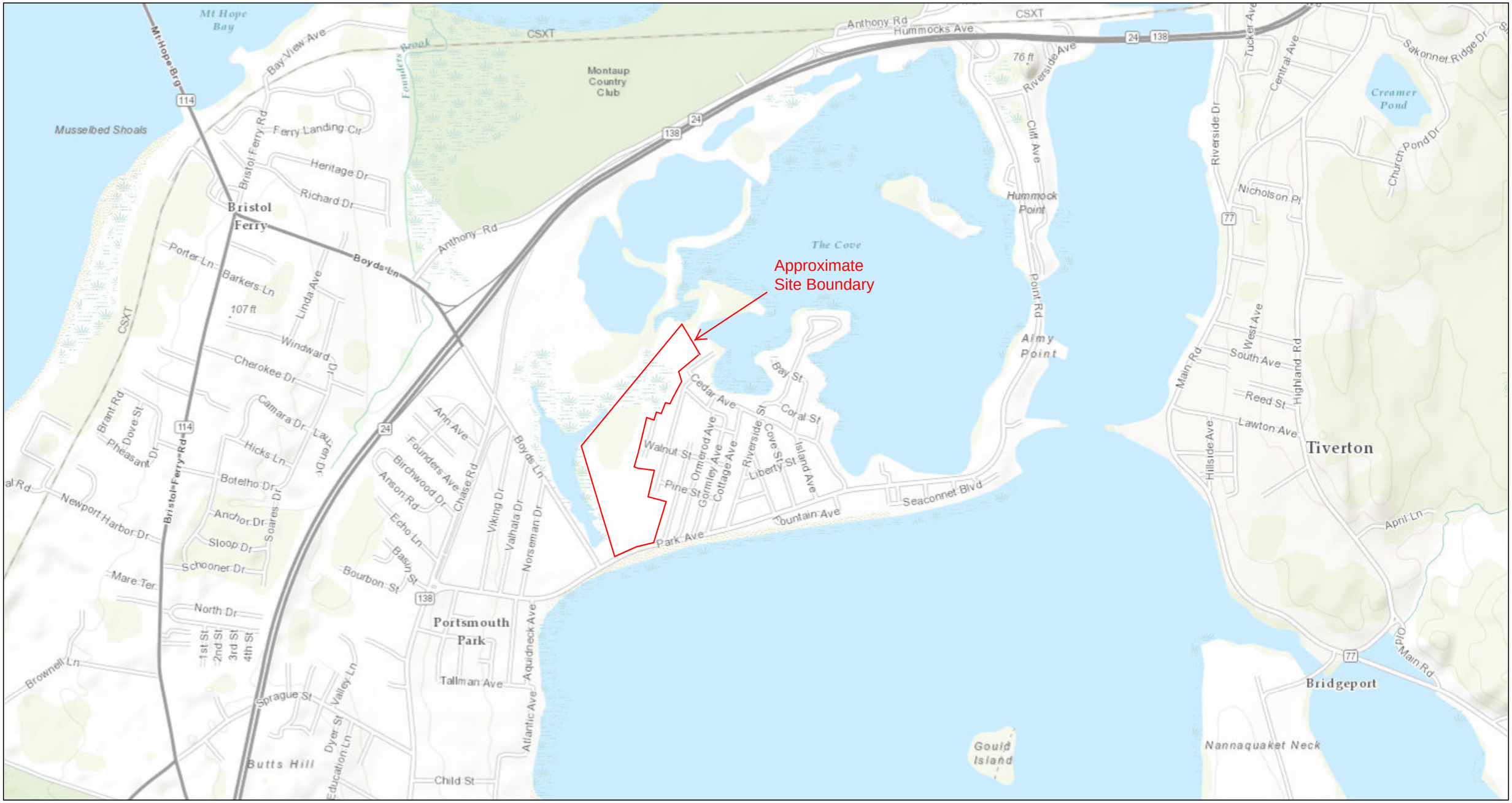
Table 3
Soil Gas Monitoring Data
Former Portsmouth Landfill
Park Avenue, Portsmouth, RI

		Ambient						Soil Gas			
Location	Date	Temperature (°F)	Barometric Pressure (Inches Hg)	Wind Velocity (Miles Per Hour)	Wind Direction	Ambient Methane (CH_4) (%)	Ambient Oxygen (O_2) (%)	Soil Gas Methane (CH_4) (%)	Soil Gas Oxygen (O_2) (%)	Soil Gas Hydrogen Sulfide (H_2S) (ppm)	CO_2 (%)
SG-3G	4/13/2018	45	29.92	6	SSW	0.0	21.9	0	20.1	0	1.4
	7/31/2018	85	30.16	12	SW	0.0	19.6	0	16.3	0	1.8
	7/31/2018	85	30.16	12	SW	0.0	19.6	0	16.3	0	1.8
	10/30/2018	53	29.94	14	SE	0.0	21.6	0	19.1	0	2.1
	1/9/2019	41	29.33	10	S	0.0	21.2	0	18.9	0	1.2
	4/12/2019	49	30.30	4	N	0.0	20.6	0	19.8	0	1.7
	7/29/2019	88	30.04	4	S	0.0	21.9	0	20.9	0	1.2
	10/30/2019	67	30.37	0	---	0.0	20.9	0	18.1	0	2.8
	1/15/2020	45	30.13	2	S	0.0	21.2	0	18.7	0	1.5
	4/23/2020	52	29.94	1	S	0.0	21.5	0	18.6	0	1.9
	7/30/2020	85	29.87	8	S	0.0	20.4	0	16.9	0	2.2
	10/19/2020	66	30.23	4	S	0.0	20.5	0	16.4	0	1.6
	1/5/2021	33	29.75	6	E	0.0	20.5	0	19.2	0	1.2
	4/7/2021	60	29.91	4	E	0.0	21.9	0	20.1	0	1.3
	7/27/2021	86	29.95	9	S	0.0	20.6	0	15.4	0	1.8
	10/19/2021	53	29.85	8	W	0.0	20.9	0	17.6	0	2.0
	1/19/2022	38	29.96	6	S	0.0	20.7	0	20.2	0	1.0
	4/19/2022	50	29.50	10	SW	0.0	21.1	0	19.6	0	1.0
	7/19/2022	80	29.67	5	SW	0.0	20.4	0	18.0	0	3.3
	10/5/2022	54	29.85	5	E	0.0	21.0	0	19.7	0	2.6
	1/9/2023	36	29.84	2	S	0.0	21.7	0	17.6	0	1.3
	4/4/2023	50	30.05	2	SE	0.0	22.0	0	19.1	0	1.1
	7/17/2023	72	29.88	2	S	0.0	20.2	0	18.4	0	3.9
	10/4/2023	75	30.15	3	NW	0.0	20.5	0	17.8	0	2.3
	1/12/2024	44	30.08	8	W	0.0	21.6	0	16.6	0	2.5
	4/10/2024	50	30.50	4	SE	0.0	20.3	0	18.9	0	1.2
	7/29/2024	64	29.98	4	W	0.0	20.5	0	17.9	0	1.8

Lower explosive limit (LEL) of methane (CH4) is 5%
Landfill gases measured using a Landtech Gem 2000 Plus or 5000 Plus Landfill Gas Monitor

FIGURES

RIDEM Environmental Resource Map



July 7, 2017

1:18,056

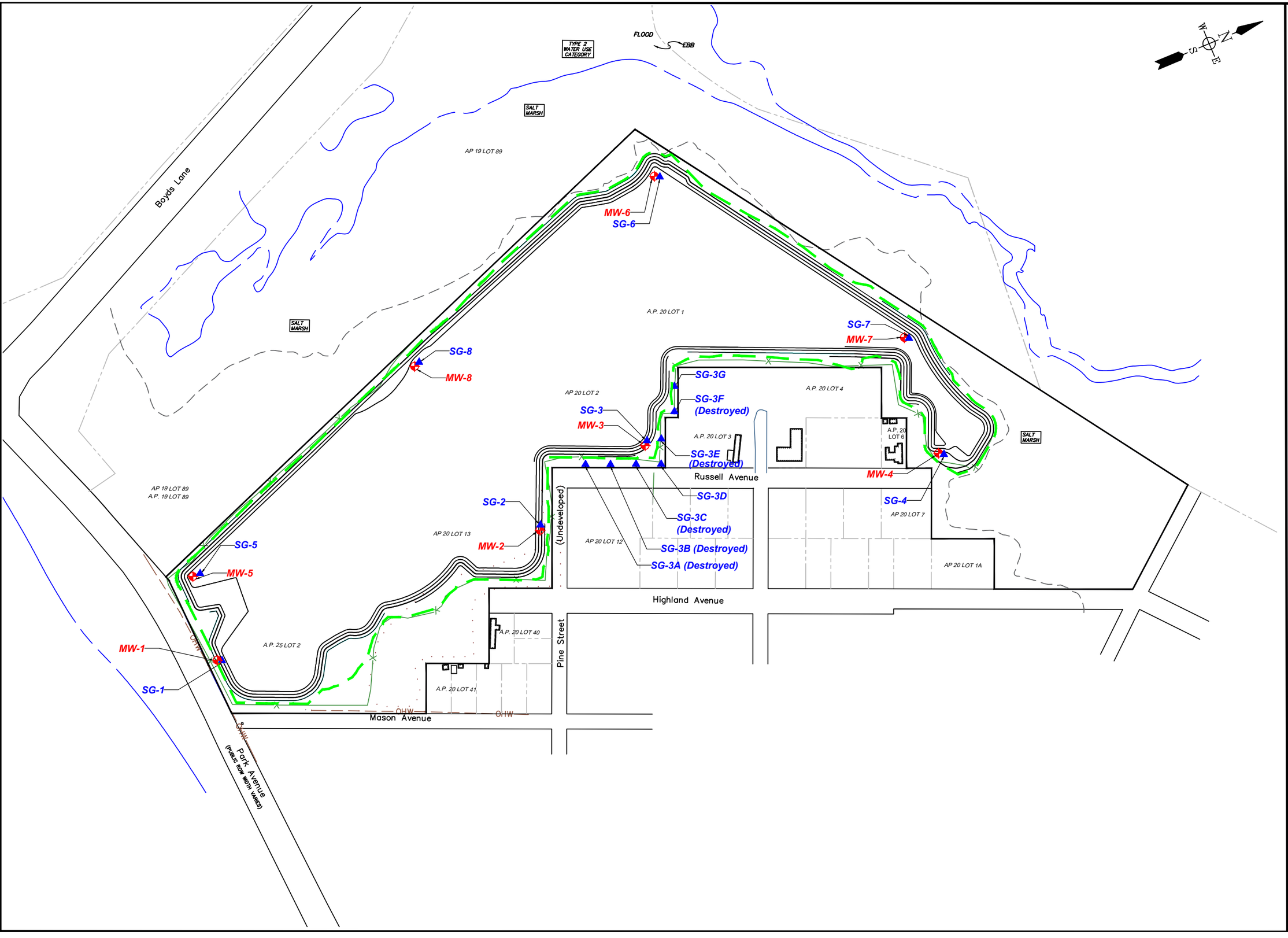
0 0.175 0.35 0.7 mi

0 0.35 0.7 1.4 km

Figure 1: Site Locus Map

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS

Management (RIDEM) | USDA NRCS | U.S. Fish and Wildlife Service, Coastal Barrier Resources Act Program, CBRA@FWS.gov | USDA NRCS Rhode Island State Office, RIGIS, University of Rhode Island Environmental Data Center (URIEDC) | RIGIS, University of Rhode Island Environmental Data Center | RIEMA | Esri, HERE |



LEGEND

- MONITORING WELL
- SOIL GAS POINT
- APPROXIMATE CAP BOUNDARY
- SITE BOUNDARY

MONITORING NOTES

1. Monitoring Wells MW-1 through MW-4 and Soil Gas Points SG-1 through SG-4 installed on 4/25/2017
2. Soil Gas Points SG-3A through SG-3G installed on 4/13/2018
3. Monitoring Wells MW-5 through MW-8 and Soil Gas Points SG-5 through SG-8 installed on 11/11/2021

Approximate Feet
0 200

NAME/ADDRESS:

Prepared for
AP Enterprise LLC
28 Teal Drive, Wakefield, RI 02879

DRAWING TITLE:

Site Plan
Former Portsmouth Landfill

ATLAS

DRAWN BY:	AK/BAM
CHECKED BY:	AK/PDC
PROJECT NO.	3010000351
DATE:	5/2/2023

FIGURE NO.
2

APPENDIX A

GROUNDWATER LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Adrienne Kee
Atlas Technical Consultants LLC
400 Reservoir Ave
Suite 2C
Providence, Rhode Island 02907

Generated 8/13/2024 10:18:04 AM

JOB DESCRIPTION

Portsmouth Landfill

JOB NUMBER

620-20127-1

Eurofins Rhode Island
646 Camp Ave
North Kingstown RI 02852

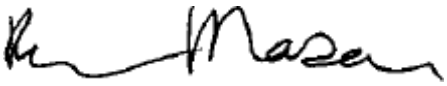
See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization



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8/13/2024 10:18:04 AM

Authorized for release by
Becky Mason, Project Manager II
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(413)572-4000

Table of Contents

Definitions/Glossary

Client: Atlas Technical Consultants LLC
Job ID: 620-20127-1
Project/Site: Portsmouth Landfill

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 620-20127-1 — Eurofins Rhode Island

Job Narrative
620-20127-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 8/7/2024 3:46 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C.

GC/MS VOA
Method 8260C: The laboratory control sample duplicate (LCSD) for analytical batch 620-37535 recovered outside control limits for the following analyte: Benzene. This analyte was biased high in the LCSD and was not detected in the associated samples. According to 8260C requirements, <10% of analytes are allowed to recover outside control limits; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: MW-1 — Lab Sample ID: 620-20127-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	150		4.0		ug/L	1		6020B	Total Recoverable
Copper	11		4.0		ug/L	1		6020B	Total Recoverable
Lead	1.4		1.2		ug/L	1		6020B	Total Recoverable
Zinc	27		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-2 — Lab Sample ID: 620-20127-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	130		4.0		ug/L	1		6020B	Total Recoverable
Copper	6.1		4.0		ug/L	1		6020B	Total Recoverable
Lead	2.7		1.2		ug/L	1		6020B	Total Recoverable
Zinc	25		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-3 — Lab Sample ID: 620-20127-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	29		4.0		ug/L	1		6020B	Total Recoverable
Cobalt	35		4.0		ug/L	1		6020B	Total Recoverable
Copper	6.3		4.0		ug/L	1		6020B	Total Recoverable
Lead	4.2		1.2		ug/L	1		6020B	Total Recoverable
Nickel	23		4.0		ug/L	1		6020B	Total Recoverable
Zinc	110		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: Trip Blank — Lab Sample ID: 620-20127-4

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: MW-1
Date Collected: 08/06/24 10:30
Date Received: 08/07/24 15:46

Lab Sample ID: 620-20127-1
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/08/24 16:33	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/08/24 16:33	1
Benzene	ND	*+	1.0		ug/L			08/08/24 16:33	1
Chlorobenzene	ND		1.0		ug/L			08/08/24 16:33	1
Chloroethane	ND		2.0		ug/L			08/08/24 16:33	1
Chloroform	ND		1.0		ug/L			08/08/24 16:33	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 16:33	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/08/24 16:33	1
Diethyl ether	ND		1.0		ug/L			08/08/24 16:33	1
Isopropylbenzene	ND		1.0		ug/L			08/08/24 16:33	1
Tetrachloroethene	ND		1.0		ug/L			08/08/24 16:33	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 16:33	1
Trichloroethene	ND		1.0		ug/L			08/08/24 16:33	1
Vinyl chloride	ND		1.0		ug/L			08/08/24 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*08/08/24 16:33*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*08/08/24 16:33*	*1*
Dibromofluoromethane (Surr)	*107*		*70 - 130*		*08/08/24 16:33*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/08/24 16:33*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Arsenic	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Barium	**150**		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Beryllium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:19	1
Cadmium	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Chromium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Cobalt	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Copper	**11**		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Lead	**1.4**		1.2		ug/L		08/12/24 08:49	08/13/24 03:19	1
Nickel	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Selenium	ND		2.5		ug/L		08/12/24 08:49	08/13/24 03:19	1
Silver	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Thallium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:19	1
Vanadium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:19	1
Zinc	**27**		16		ug/L		08/12/24 08:49	08/13/24 03:19	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: MW-2
Date Collected: 08/06/24 09:00
Date Received: 08/07/24 15:46

Lab Sample ID: 620-20127-2
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/08/24 16:59	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/08/24 16:59	1
Benzene	ND	*+	1.0		ug/L			08/08/24 16:59	1
Chlorobenzene	ND		1.0		ug/L			08/08/24 16:59	1
Chloroethane	ND		2.0		ug/L			08/08/24 16:59	1
Chloroform	ND		1.0		ug/L			08/08/24 16:59	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 16:59	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/08/24 16:59	1
Diethyl ether	ND		1.0		ug/L			08/08/24 16:59	1
Isopropylbenzene	ND		1.0		ug/L			08/08/24 16:59	1
Tetrachloroethene	ND		1.0		ug/L			08/08/24 16:59	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 16:59	1
Trichloroethene	ND		1.0		ug/L			08/08/24 16:59	1
Vinyl chloride	ND		1.0		ug/L			08/08/24 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*08/08/24 16:59*	*1*
4-Bromofluorobenzene (Surr)	*90*		*70 - 130*		*08/08/24 16:59*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*08/08/24 16:59*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/08/24 16:59*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Arsenic	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Barium	**130**		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Beryllium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:21	1
Cadmium	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Chromium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Cobalt	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Copper	**6.1**		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Lead	**2.7**		1.2		ug/L		08/12/24 08:49	08/13/24 03:21	1
Nickel	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Selenium	ND		2.5		ug/L		08/12/24 08:49	08/13/24 03:21	1
Silver	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Thallium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:21	1
Vanadium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:21	1
Zinc	**25**		16		ug/L		08/12/24 08:49	08/13/24 03:21	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: MW-3
Date Collected: 08/06/24 09:35
Date Received: 08/07/24 15:46

Lab Sample ID: 620-20127-3
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/08/24 17:25	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/08/24 17:25	1
Benzene	ND	*+	1.0		ug/L			08/08/24 17:25	1
Chlorobenzene	ND		1.0		ug/L			08/08/24 17:25	1
Chloroethane	ND		2.0		ug/L			08/08/24 17:25	1
Chloroform	ND		1.0		ug/L			08/08/24 17:25	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 17:25	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/08/24 17:25	1
Diethyl ether	ND		1.0		ug/L			08/08/24 17:25	1
Isopropylbenzene	ND		1.0		ug/L			08/08/24 17:25	1
Tetrachloroethene	ND		1.0		ug/L			08/08/24 17:25	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 17:25	1
Trichloroethene	ND		1.0		ug/L			08/08/24 17:25	1
Vinyl chloride	ND		1.0		ug/L			08/08/24 17:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*08/08/24 17:25*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*08/08/24 17:25*	*1*
Dibromofluoromethane (Surr)	*109*		*70 - 130*		*08/08/24 17:25*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/08/24 17:25*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Arsenic	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Barium	**29**		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Beryllium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:14	1
Cadmium	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Chromium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Cobalt	**35**		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Copper	**6.3**		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Lead	**4.2**		1.2		ug/L		08/12/24 08:49	08/13/24 03:14	1
Nickel	**23**		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Selenium	ND		2.5		ug/L		08/12/24 08:49	08/13/24 03:14	1
Silver	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Thallium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:14	1
Vanadium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:14	1
Zinc	**110**		16		ug/L		08/12/24 08:49	08/13/24 03:14	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: Trip Blank
Date Collected: 08/07/24 00:00
Date Received: 08/07/24 15:46

Lab Sample ID: 620-20127-4
Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/08/24 11:13	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/08/24 11:13	1
Benzene	ND	*+	1.0		ug/L			08/08/24 11:13	1
Chlorobenzene	ND		1.0		ug/L			08/08/24 11:13	1
Chloroethane	ND		2.0		ug/L			08/08/24 11:13	1
Chloroform	ND		1.0		ug/L			08/08/24 11:13	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 11:13	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/08/24 11:13	1
Diethyl ether	ND		1.0		ug/L			08/08/24 11:13	1
Isopropylbenzene	ND		1.0		ug/L			08/08/24 11:13	1
Tetrachloroethene	ND		1.0		ug/L			08/08/24 11:13	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 11:13	1
Trichloroethene	ND		1.0		ug/L			08/08/24 11:13	1
Vinyl chloride	ND		1.0		ug/L			08/08/24 11:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*08/08/24 11:13*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*08/08/24 11:13*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*08/08/24 11:13*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*08/08/24 11:13*	*1*

Surrogate Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
620-20127-1	MW-1	105	93	107	102
620-20127-2	MW-2	101	90	105	102
620-20127-3	MW-3	106	91	109	102
620-20127-4	Trip Blank	99	93	106	100
LCS 620-37535/4	Lab Control Sample	94	100	101	98
LCSD 620-37535/5	Lab Control Sample Dup	96	100	104	99
MB 620-37535/7	Method Blank	99	94	105	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

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

Lab Sample ID: MB 620-37535/7
Matrix: Water
Analysis Batch: 37535

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/08/24 10:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/08/24 10:46	1
Benzene	ND		1.0		ug/L			08/08/24 10:46	1
Chlorobenzene	ND		1.0		ug/L			08/08/24 10:46	1
Chloroethane	ND		2.0		ug/L			08/08/24 10:46	1
Chloroform	ND		1.0		ug/L			08/08/24 10:46	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 10:46	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/08/24 10:46	1
Diethyl ether	ND		1.0		ug/L			08/08/24 10:46	1
Isopropylbenzene	ND		1.0		ug/L			08/08/24 10:46	1
Tetrachloroethene	ND		1.0		ug/L			08/08/24 10:46	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/08/24 10:46	1
Trichloroethene	ND		1.0		ug/L			08/08/24 10:46	1
Vinyl chloride	ND		1.0		ug/L			08/08/24 10:46	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*08/08/24 10:46*	*1*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*08/08/24 10:46*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*08/08/24 10:46*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*08/08/24 10:46*	*1*

Lab Sample ID: LCS 620-37535/4
Matrix: Water
Analysis Batch: 37535

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethane			20.0	20.8		ug/L		104	81 - 120		
1,4-Dichlorobenzene			20.0	21.8		ug/L		109	86 - 116		
Benzene			20.0	21.8		ug/L		109	86 - 111		
Chlorobenzene			20.0	19.7		ug/L		99	93 - 115		
Chloroethane			20.0	23.0		ug/L		115	56 - 155		
Chloroform			20.0	20.9		ug/L		105	84 - 116		
cis-1,2-Dichloroethene			20.0	21.2		ug/L		106	81 - 124		
Dichlorodifluoromethane			20.0	20.8		ug/L		104	36 - 131		
Diethyl ether			20.0	19.4		ug/L		97	69 - 122		
Isopropylbenzene			20.0	22.4		ug/L		112	83 - 117		
Tetrachloroethene			20.0	20.7		ug/L		103	85 - 116		
trans-1,2-Dichloroethene			20.0	20.9		ug/L		105	81 - 127		
Trichloroethene			20.0	19.0		ug/L		95	74 - 118		
Vinyl chloride			20.0	23.2		ug/L		116	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*101*		*70 - 130*
Toluene-d8 (Surr)	*98*		*70 - 130*

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

Lab Sample ID: LCSD 620-37535/5
Matrix: Water
Analysis Batch: 37535

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane			20.0	21.5		ug/L		107	81 - 120	3	20
1,4-Dichlorobenzene			20.0	22.0		ug/L		110	86 - 116	1	20
Benzene			20.0	22.5	*+	ug/L		113	86 - 111	3	20
Chlorobenzene			20.0	19.6		ug/L		98	93 - 115	0	20
Chloroethane			20.0	23.0		ug/L		115	56 - 155	0	20
Chloroform			20.0	22.0		ug/L		110	84 - 116	5	20
cis-1,2-Dichloroethene			20.0	22.3		ug/L		112	81 - 124	5	20
Dichlorodifluoromethane			20.0	21.0		ug/L		105	36 - 131	1	20
Diethyl ether			20.0	20.3		ug/L		102	69 - 122	4	20
Isopropylbenzene			20.0	22.4		ug/L		112	83 - 117	0	20
Tetrachloroethene			20.0	21.2		ug/L		106	85 - 116	3	20
trans-1,2-Dichloroethene			20.0	22.2		ug/L		111	81 - 127	6	20
Trichloroethene			20.0	19.0		ug/L		95	74 - 118	0	20
Vinyl chloride			20.0	23.9		ug/L		119	62 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*99*		*70 - 130*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 460-990053/1-A
Matrix: Water
Analysis Batch: 990085

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 990053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Arsenic	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Barium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Beryllium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:02	1
Cadmium	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Chromium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Cobalt	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Copper	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Lead	ND		1.2		ug/L		08/12/24 08:49	08/13/24 03:02	1
Nickel	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Selenium	ND		2.5		ug/L		08/12/24 08:49	08/13/24 03:02	1
Silver	ND		2.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Thallium	ND		0.80		ug/L		08/12/24 08:49	08/13/24 03:02	1
Vanadium	ND		4.0		ug/L		08/12/24 08:49	08/13/24 03:02	1
Zinc	ND		16		ug/L		08/12/24 08:49	08/13/24 03:02	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 460-990053/2-A
Matrix: Water
Analysis Batch: 990085

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 990053

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony			25.0	26.5		ug/L		106	80 - 120		
Arsenic			50.0	52.4		ug/L		105	80 - 120		
Barium			50.0	50.4		ug/L		101	80 - 120		
Beryllium			25.0	24.0		ug/L		96	80 - 120		
Cadmium			25.0	25.8		ug/L		103	80 - 120		
Chromium			50.0	51.9		ug/L		104	80 - 120		
Cobalt			25.0	27.0		ug/L		108	80 - 120		
Copper			50.0	53.7		ug/L		107	80 - 120		
Lead			25.0	25.8		ug/L		103	80 - 120		
Nickel			50.0	52.8		ug/L		106	80 - 120		
Selenium			50.0	51.3		ug/L		103	80 - 120		
Silver			25.0	25.1		ug/L		101	80 - 120		
Thallium			20.0	20.4		ug/L		102	80 - 120		
Vanadium			50.0	53.5		ug/L		107	80 - 120		
Zinc			250	255		ug/L		102	80 - 120		

Lab Sample ID: 620-20127-3 MS
Matrix: Water
Analysis Batch: 990085

Client Sample ID: MW-3
Prep Type: Total Recoverable
Prep Batch: 990053

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Antimony	ND		25.0	26.4		ug/L		106	75 - 125		
Arsenic	ND		50.0	53.1		ug/L		104	75 - 125		
Barium	29		50.0	76.4		ug/L		96	75 - 125		
Beryllium	ND		25.0	25.1		ug/L		100	75 - 125		
Cadmium	ND		25.0	26.6		ug/L		106	75 - 125		
Chromium	ND		50.0	52.7		ug/L		105	75 - 125		
Cobalt	35		25.0	60.2		ug/L		100	75 - 125		
Copper	6.3		50.0	56.3		ug/L		100	75 - 125		
Lead	4.2		25.0	29.3		ug/L		100	75 - 125		
Nickel	23		50.0	75.1		ug/L		104	75 - 125		
Selenium	ND		50.0	50.1		ug/L		100	75 - 125		
Silver	ND		25.0	24.5		ug/L		98	75 - 125		
Thallium	ND		20.0	19.6		ug/L		98	75 - 125		
Vanadium	ND		50.0	51.9		ug/L		104	75 - 125		
Zinc	110		250	363		ug/L		100	75 - 125		

Lab Sample ID: 620-20127-3 DU
Matrix: Water
Analysis Batch: 990085

Client Sample ID: MW-3
Prep Type: Total Recoverable
Prep Batch: 990053

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	ND			ND		ug/L				NC	20
Arsenic	ND			ND		ug/L				NC	20
Barium	29			28.7		ug/L				0.6	20
Beryllium	ND			ND		ug/L				NC	20
Cadmium	ND			ND		ug/L				NC	20
Chromium	ND			ND		ug/L				NC	20
Cobalt	35			34.4		ug/L				2	20

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 620-20127-3 DU
Matrix: Water
Analysis Batch: 990085

Client Sample ID: MW-3
Prep Type: Total Recoverable
Prep Batch: 990053

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Copper	6.3			6.73		ug/L				7	20
Lead	4.2			4.26		ug/L				1	20
Nickel	23			23.2		ug/L				0.5	20
Selenium	ND			ND		ug/L				NC	20
Silver	ND			ND		ug/L				NC	20
Thallium	ND			ND		ug/L				NC	20
Vanadium	ND			ND		ug/L				NC	20
Zinc	110			112		ug/L				0.4	20

QC Association Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

GC/MS VOA

Analysis Batch: 37535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-20127-1	MW-1	Total/NA	Water	8260C	
620-20127-2	MW-2	Total/NA	Water	8260C	
620-20127-3	MW-3	Total/NA	Water	8260C	
620-20127-4	Trip Blank	Total/NA	Water	8260C	
MB 620-37535/7	Method Blank	Total/NA	Water	8260C	
LCS 620-37535/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-37535/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Metals

Prep Batch: 990053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-20127-1	MW-1	Total Recoverable	Water	3005A	
620-20127-2	MW-2	Total Recoverable	Water	3005A	
620-20127-3	MW-3	Total Recoverable	Water	3005A	
MB 460-990053/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 460-990053/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
620-20127-3 MS	MW-3	Total Recoverable	Water	3005A	
620-20127-3 DU	MW-3	Total Recoverable	Water	3005A	

Analysis Batch: 990085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-20127-1	MW-1	Total Recoverable	Water	6020B	990053
620-20127-2	MW-2	Total Recoverable	Water	6020B	990053
620-20127-3	MW-3	Total Recoverable	Water	6020B	990053
MB 460-990053/1-A	Method Blank	Total Recoverable	Water	6020B	990053
LCS 460-990053/2-A	Lab Control Sample	Total Recoverable	Water	6020B	990053
620-20127-3 MS	MW-3	Total Recoverable	Water	6020B	990053
620-20127-3 DU	MW-3	Total Recoverable	Water	6020B	990053

Lab Chronicle

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Client Sample ID: MW-1

Lab Sample ID: 620-20127-1

Date Collected: 08/06/24 10:30

Matrix: Water

Date Received: 08/07/24 15:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37535	CLR	EET RI	08/08/24 16:33
Total Recoverable	Prep	3005A			990053	JKF	EET EDI	08/12/24 08:49
Total Recoverable	Analysis	6020B		1	990085	MDC	EET EDI	08/13/24 03:19

Client Sample ID: MW-2

Lab Sample ID: 620-20127-2

Date Collected: 08/06/24 09:00

Matrix: Water

Date Received: 08/07/24 15:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37535	CLR	EET RI	08/08/24 16:59
Total Recoverable	Prep	3005A			990053	JKF	EET EDI	08/12/24 08:49
Total Recoverable	Analysis	6020B		1	990085	MDC	EET EDI	08/13/24 03:21

Client Sample ID: MW-3

Lab Sample ID: 620-20127-3

Date Collected: 08/06/24 09:35

Matrix: Water

Date Received: 08/07/24 15:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37535	CLR	EET RI	08/08/24 17:25
Total Recoverable	Prep	3005A			990053	JKF	EET EDI	08/12/24 08:49
Total Recoverable	Analysis	6020B		1	990085	MDC	EET EDI	08/13/24 03:14

Client Sample ID: Trip Blank

Lab Sample ID: 620-20127-4

Date Collected: 08/07/24 00:00

Matrix: Water

Date Received: 08/07/24 15:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37535	CLR	EET RI	08/08/24 11:13

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

EET RI = Eurofins Rhode Island, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Accreditation/Certification Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Laboratory: Eurofins Rhode Island

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	7165.01	01-31-26
Connecticut	State	PH-0722	06-30-26
Maine	State	RI00100	05-09-25
Massachusetts	State	M-RI907	06-30-24 *
New Hampshire	NELAP	2240	08-03-25
New Jersey	NELAP	RI008	06-30-25
New York	NELAP	11393	03-31-25
Rhode Island	State	LAI00368	12-31-23 *

Laboratory: Eurofins Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0818	09-30-24
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	01-02-25
Georgia	State	12028 (NJ)	07-01-25
Massachusetts	State	M-NJ312	07-01-25
New Jersey	NELAP	12028	06-30-25
New York	NELAP	11452	04-01-25
Pennsylvania	NELAP	68-00522	02-28-25
Rhode Island	State	LAO00376	12-31-24
USDA	US Federal Programs	525-24-149-77606	05-21-27

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Atlas Technical Consultants LLC
Job ID: 620-20127-1
Project/Site: Portsmouth Landfill

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET RI
6020B	Metals (ICP/MS)	SW846	EET EDI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET EDI
5030C	Purge and Trap	SW846	EET RI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

EET RI = Eurofins Rhode Island, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Sample Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-20127-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-20127-1	MW-1	Water	08/06/24 10:30	08/07/24 15:46
620-20127-2	MW-2	Water	08/06/24 09:00	08/07/24 15:46
620-20127-3	MW-3	Water	08/06/24 09:35	08/07/24 15:46
620-20127-4	Trip Blank	Water	08/07/24 00:00	08/07/24 15:46

20127

Chain of Custody Record

1 of 1

>> Select a Laboratory or Service Center <<

Eurfins New England
646 Camp Ave
North Kingstown, RI 02852
413 789 9018

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: RIDEM GA GW Limits

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Adrienne Kee	Site Contact: Adrienne Kee	Date:	COC No
Atlas dba ATC Group Services	Tel: 401.741.2183	Lab Contact: Becky Mason	Carrier:	1 of 1 COCs
10 State St, Suite 100	Analysis Turnaround Time			TALS Project #
Woburn, MA 01801	☐ CALENDAR DAYS ☐ WORKING DAYS			Sampler
Adrienne Kee 401 741 2183	TAT if different from Below			For Lab Use Only:
	☐ 2 weeks			Walk-in Client
Project Name: Portsmouth Landfill	☐ 1 week			Lab Sampling
Site: Park Ave, Portsmouth RI	☐ 2 days			Job / SDG No
P O # 3010000351	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	VOCs (8260)	Total Sb, As, Ba, Be, Cd, Cr, Co	Total Cu, Pb, Ni, Se, Ag, Tl, V, Zn	Sample Specific Notes
-1 MW-1	8/6/24	1032	G	GW	4	N		X	X		
-2 MW-2		0900	G	GW	4			X	X		
-3 MW-3		0936	G	GW	4			X	X		
MW-4										MH	
MW-5										MH	
MW-6										MH	
MW-7										MH	
MW-8										MH	
-4 Trip Blank	8/7/24	—	G	W	2			X			

620-20127 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

1,2 1,4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

☐ Non-Hazard ☐ Flammabl ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

2.6 +0.1 2.8 #6

Custody Seals Intact ☐ Yes ☐ No	Custody Seal No		Cooler Temp (°C) Obs'd _____ Corr'd _____		Therm ID No: _____	
Relinquished by	Company Atlas	Date/Time 8/7/24 0600	Received by	Company	Date/Time 8/7/24	10:35
Relinquished by	Company ERT	Date/Time 8/7/24 15:46	Received by	Company ERT	Date/Time 8/7/24	19:46
Relinquished by	Company	Date/Time	Received in Laboratory by	Company	Date/Time	

Form No. CA-C-WI-002, Rev. 4.35, dated 10/6/2020

Eurofins Rhode Island
646 Camp Ave
North Kingstown, RI 02852
Phone: 413-789-9018 Fax: 413-506-3830

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-16263.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Becky.Mason@et.eurofinsus.com	State of Origin: Rhode Island	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast L		Accreditations Required (See note):		Job #: 620-20127-1
Address: 777 New Durham Road,	Due Date Requested: 8/15/2024			Preservation Codes:
City: Edison	TAT Requested (days):			
State, Zip: NJ 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:			
Email:	WO #:			
Project Name: Portsmouth Landfill	Project #: 62001688			Other:
Site:	SSOW#:			

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3005A 6020 Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-1 (620-20127 1)	8/6/24	10:30 Eastern		Water			X	1	
MW-2 (620-20127-2)	8/6/24	09:00 Eastern		Water			X	1	
MW-3 (620-20127-3)	8/6/24	09:35 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: FedEx			
Relinquished by:	Date/Time: 8/7/24 1234	Company FAT	Received by: Blake	Date/Time: 8/8/24 9:35	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Ver: 04/02/2024

IR9 10c 11.4c

Login Sample Receipt Checklist

Client: Atlas Technical Consultants LLC

Job Number: 620-20127-1

Login Number: 20127

List Source: Eurofins Rhode Island

List Number: 1

Creator: Makhoul, Elie

Question	Answer	Comment
Radioactivity is at or below background levels?	N/A	
The cooler's custody seal is present and intact?	N/A	
The cooler or samples do not appear to have been compromised or tampered with?	N/A	
Samples were received on Ice?	True	
Containers are not broken or leaking?	True	
There are no samples present with short holding-time parameters?	True	
Quick TAT was not requested?	True	
COC is present?	True	
COC is filled out in ink and legible?	True	
COC is filled out completely?	True	
COC includes all required signatures?	True	
Is the Field Sampler's name present on COC?	True	
Sample containers have legible labels?	True	
COC matches up to all samples in the cooler?	True	
Sample ID's on containers match exactly the sample ID's on COC?	True	
Appropriate sample containers are used?	True	
Sample collection date/times are provided?	True	
Samples are received within Holding Time?	True	
Cooler Temperature is acceptable: <6 degC, with no frozen samples?	True	
Cooler Temperature is recorded?	True	
Sample bottles are completely filled?	True	
There is sufficient volume for all the requested analyses?	True	
Appropriate sample preservatives were used?	True	
Aqueous inorganic sample pHs are acceptable?	True	
Aqueous semi-volatile organics sample pHs are acceptable?	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter?	True	
MS/MSD was not requested and not extra volume was sent?	True	
Samples do not require splitting or compositing?	True	
Multiphase samples are not present?	True	
Trip Blank was not provided/required?	True	
A sample discrepancy report is not needed?	N/A	

Login Sample Receipt Checklist

Client: Atlas Technical Consultants LLC

Job Number: 620-20127-1

Login Number: 20127
List Number: 2
Creator: Armbruster, Chris

List Source: Eurofins Edison
List Creation: 08/08/24 12:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0/1.4°C IR9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Adrienne Kee
Atlas Technical Consultants LLC
400 Reservoir Ave
Suite 2C
Providence, Rhode Island 02907

Generated 8/8/2024 9:59:39 AM

JOB DESCRIPTION

Portsmouth Landfill

JOB NUMBER

620-19982-1

Eurofins Rhode Island
646 Camp Ave
North Kingstown RI 02852

See page two for job notes and contact information.

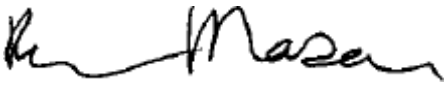
myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northeast, LLC Project Manager.

Authorization



Generated
8/8/2024 9:59:39 AM

Authorized for release by
Becky Mason, Project Manager II
Becky.Mason@et.eurofinsus.com
(413)572-4000

Table of Contents

Definitions/Glossary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
620-19982-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt
The samples were received on 7/30/2024 8:50 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 5.4°C.

GC/MS VOA
Method 8260C: The large number of analytes included in the continuing calibration verification (CCV) gives a high probability that one or more analytes will be outside acceptance criteria. As indicated in the reference method, analysis may proceed as long as no more than 20% of the analytes of interest are outside the method-defined %D criteria. Affected analytes (biased high): Vinyl chloride.
(CCVIS 620-37291/3)

Method 8260C: The laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for analytical batch 620-37291 recovered outside control limits for the following analytes: Vinyl chloride. This analyte was biased high in the LCS and was not detected in the associated samples. According to 8260C requirements, <10% of analytes are allowed to recover outside control limits; therefore, the data have been reported.

Method 8260C: The laboratory control sample duplicate (LCSD) for analytical batch 620-37291 recovered outside control limits for the following analyte: Tetrachloroethene. This analytes were biased high in the LCSD but recovered within 70-130%. According to 8260C requirements, analytes are allowed to recover outside in-house control limits as long as recovery is within the method limit of 70-130%; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals
No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-4 — Lab Sample ID: 620-19982-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	44		4.0		ug/L	1		6020B	Total Recoverable
Cadmium	2.0		2.0		ug/L	1		6020B	Total Recoverable
Copper	39		4.0		ug/L	1		6020B	Total Recoverable
Lead	3.6		1.2		ug/L	1		6020B	Total Recoverable
Nickel	27		4.0		ug/L	1		6020B	Total Recoverable
Zinc	1200		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-5 — Lab Sample ID: 620-19982-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	43		4.0		ug/L	1		6020B	Total Recoverable
Cadmium	2.4		2.0		ug/L	1		6020B	Total Recoverable
Copper	37		4.0		ug/L	1		6020B	Total Recoverable
Lead	3.5		1.2		ug/L	1		6020B	Total Recoverable
Nickel	28		4.0		ug/L	1		6020B	Total Recoverable
Zinc	1200		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-6 — Lab Sample ID: 620-19982-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1.8		1.0		ug/L	1		8260C	Total/NA
Isopropylbenzene	1.3		1.0		ug/L	1		8260C	Total/NA
Barium	240		4.0		ug/L	1		6020B	Total Recoverable
Cobalt	19		4.0		ug/L	1		6020B	Total Recoverable
Copper	8.4		4.0		ug/L	1		6020B	Total Recoverable
Lead	1.3		1.2		ug/L	1		6020B	Total Recoverable
Nickel	9.0		4.0		ug/L	1		6020B	Total Recoverable
Zinc	97		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-7 — Lab Sample ID: 620-19982-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Isopropylbenzene	3.3		1.0		ug/L	1		8260C	Total/NA
Arsenic	3.3		2.0		ug/L	1		6020B	Total Recoverable
Barium	240		4.0		ug/L	1		6020B	Total Recoverable
Chromium	11		4.0		ug/L	1		6020B	Total Recoverable

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-7 (Continued) — Lab Sample ID: 620-19982-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	42		4.0		ug/L	1		6020B	Total Recoverable
Lead	43		1.2		ug/L	1		6020B	Total Recoverable
Nickel	14		4.0		ug/L	1		6020B	Total Recoverable
Selenium	17		2.5		ug/L	1		6020B	Total Recoverable
Zinc	130		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: MW-8 — Lab Sample ID: 620-19982-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroethane	2.9		2.0		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	6.9		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	7.7		1.0		ug/L	1		8260C	Total/NA
Arsenic	2.3		2.0		ug/L	1		6020B	Total Recoverable
Barium	160		4.0		ug/L	1		6020B	Total Recoverable
Copper	6.1		4.0		ug/L	1		6020B	Total Recoverable
Lead	3.5		1.2		ug/L	1		6020B	Total Recoverable
Nickel	4.5		4.0		ug/L	1		6020B	Total Recoverable
Zinc	49		16		ug/L	1		6020B	Total Recoverable

Client Sample ID: Trip Blank — Lab Sample ID: 620-19982-6

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-4

Date Collected: 07/29/24 09:15
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-1

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 14:54	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 14:54	1
Benzene	ND		1.0		ug/L			08/01/24 14:54	1
Chlorobenzene	ND		1.0		ug/L			08/01/24 14:54	1
Chloroethane	ND		2.0		ug/L			08/01/24 14:54	1
Chloroform	ND		1.0		ug/L			08/01/24 14:54	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 14:54	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 14:54	1
Diethyl ether	ND		1.0		ug/L			08/01/24 14:54	1
Isopropylbenzene	ND		1.0		ug/L			08/01/24 14:54	1
Tetrachloroethene	ND	*+	1.0		ug/L			08/01/24 14:54	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 14:54	1
Trichloroethene	ND		1.0		ug/L			08/01/24 14:54	1
Vinyl chloride	ND	*+	1.0		ug/L			08/01/24 14:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*08/01/24 14:54*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*08/01/24 14:54*	*1*
Dibromofluoromethane (Surr)	*106*		*70 - 130*		*08/01/24 14:54*	*1*
Toluene-d8 (Surr)	*99*		*70 - 130*		*08/01/24 14:54*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Arsenic	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Barium	**44**		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Beryllium	ND		0.80		ug/L		07/31/24 20:20	08/01/24 11:46	1
Cadmium	**2.0**		2.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Chromium	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Cobalt	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Copper	**39**		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Lead	**3.6**		1.2		ug/L		07/31/24 20:20	08/01/24 11:46	1
Nickel	**27**		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Selenium	ND		2.5		ug/L		07/31/24 20:20	08/01/24 11:46	1
Silver	ND		2.0		ug/L		08/03/24 19:10	08/05/24 19:33	1
Thallium	ND		0.80		ug/L		07/31/24 20:20	08/01/24 11:46	1
Vanadium	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:46	1
Zinc	**1200**		16		ug/L		07/31/24 20:20	08/01/24 11:46	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-5

Date Collected: 07/29/24 12:50
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-2

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 15:18	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 15:18	1
Benzene	ND		1.0		ug/L			08/01/24 15:18	1
Chlorobenzene	ND		1.0		ug/L			08/01/24 15:18	1
Chloroethane	ND		2.0		ug/L			08/01/24 15:18	1
Chloroform	ND		1.0		ug/L			08/01/24 15:18	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 15:18	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 15:18	1
Diethyl ether	ND		1.0		ug/L			08/01/24 15:18	1
Isopropylbenzene	ND		1.0		ug/L			08/01/24 15:18	1
Tetrachloroethene	ND	*+	1.0		ug/L			08/01/24 15:18	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 15:18	1
Trichloroethene	ND		1.0		ug/L			08/01/24 15:18	1
Vinyl chloride	ND	*+	1.0		ug/L			08/01/24 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/01/24 15:18*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*08/01/24 15:18*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*08/01/24 15:18*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*08/01/24 15:18*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Arsenic	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Barium	**43**		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Beryllium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:36	1
Cadmium	**2.4**		2.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Chromium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Cobalt	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Copper	**37**		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Lead	**3.5**		1.2		ug/L		07/31/24 14:03	08/01/24 03:36	1
Nickel	**28**		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Selenium	ND		2.5		ug/L		07/31/24 14:03	08/01/24 03:36	1
Silver	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Thallium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:36	1
Vanadium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:36	1
Zinc	**1200**		16		ug/L		07/31/24 14:03	08/01/24 03:36	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-6

Date Collected: 07/29/24 10:55
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-3

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 15:41	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 15:41	1
Benzene	ND		1.0		ug/L			08/01/24 15:41	1
Chlorobenzene	**1.8**		1.0		ug/L			08/01/24 15:41	1
Chloroethane	ND		2.0		ug/L			08/01/24 15:41	1
Chloroform	ND		1.0		ug/L			08/01/24 15:41	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 15:41	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 15:41	1
Diethyl ether	ND		1.0		ug/L			08/01/24 15:41	1
Isopropylbenzene	**1.3**		1.0		ug/L			08/01/24 15:41	1
Tetrachloroethene	ND	*+	1.0		ug/L			08/01/24 15:41	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 15:41	1
Trichloroethene	ND		1.0		ug/L			08/01/24 15:41	1
Vinyl chloride	ND	*+	1.0		ug/L			08/01/24 15:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*08/01/24 15:41*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*08/01/24 15:41*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*08/01/24 15:41*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*08/01/24 15:41*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Arsenic	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Barium	**240**		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Beryllium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:39	1
Cadmium	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Chromium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Cobalt	**19**		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Copper	**8.4**		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Lead	**1.3**		1.2		ug/L		07/31/24 14:03	08/01/24 03:39	1
Nickel	**9.0**		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Selenium	ND		2.5		ug/L		07/31/24 14:03	08/01/24 03:39	1
Silver	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Thallium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:39	1
Vanadium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:39	1
Zinc	**97**		16		ug/L		07/31/24 14:03	08/01/24 03:39	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-7

Date Collected: 07/29/24 10:15
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-4

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 16:04	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 16:04	1
Benzene	ND		1.0		ug/L			08/01/24 16:04	1
Chlorobenzene	ND		1.0		ug/L			08/01/24 16:04	1
Chloroethane	ND		2.0		ug/L			08/01/24 16:04	1
Chloroform	ND		1.0		ug/L			08/01/24 16:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 16:04	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 16:04	1
Diethyl ether	ND		1.0		ug/L			08/01/24 16:04	1
Isopropylbenzene	**3.3**		1.0		ug/L			08/01/24 16:04	1
Tetrachloroethene	ND	*+	1.0		ug/L			08/01/24 16:04	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 16:04	1
Trichloroethene	ND		1.0		ug/L			08/01/24 16:04	1
Vinyl chloride	ND	*+	1.0		ug/L			08/01/24 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*08/01/24 16:04*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*08/01/24 16:04*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*08/01/24 16:04*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*08/01/24 16:04*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Arsenic	**3.3**		2.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Barium	**240**		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Beryllium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:41	1
Cadmium	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Chromium	**11**		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Cobalt	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Copper	**42**		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Lead	**43**		1.2		ug/L		07/31/24 14:03	08/01/24 03:41	1
Nickel	**14**		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Selenium	**17**		2.5		ug/L		07/31/24 14:03	08/01/24 03:41	1
Silver	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Thallium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:41	1
Vanadium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:41	1
Zinc	**130**		16		ug/L		07/31/24 14:03	08/01/24 03:41	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-8

Date Collected: 07/29/24 11:55
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-5

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/06/24 15:33	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/06/24 15:33	1
Benzene	ND		1.0		ug/L			08/06/24 15:33	1
Chlorobenzene	ND		1.0		ug/L			08/06/24 15:33	1
Chloroethane	**2.9**		2.0		ug/L			08/06/24 15:33	1
Chloroform	ND		1.0		ug/L			08/06/24 15:33	1
cis-1,2-Dichloroethene	**6.9**		1.0		ug/L			08/06/24 15:33	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/06/24 15:33	1
Diethyl ether	ND		1.0		ug/L			08/06/24 15:33	1
Isopropylbenzene	ND		1.0		ug/L			08/06/24 15:33	1
Tetrachloroethene	ND		1.0		ug/L			08/06/24 15:33	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/06/24 15:33	1
Trichloroethene	ND		1.0		ug/L			08/06/24 15:33	1
Vinyl chloride	**7.7**		1.0		ug/L			08/06/24 15:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*08/06/24 15:33*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*08/06/24 15:33*	*1*
Dibromofluoromethane (Surr)	*108*		*70 - 130*		*08/06/24 15:33*	*1*
Toluene-d8 (Surr)	*102*		*70 - 130*		*08/06/24 15:33*	*1*

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Arsenic	**2.3**		2.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Barium	**160**		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Beryllium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:44	1
Cadmium	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Chromium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Cobalt	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Copper	**6.1**		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Lead	**3.5**		1.2		ug/L		07/31/24 14:03	08/01/24 03:44	1
Nickel	**4.5**		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Selenium	ND		2.5		ug/L		07/31/24 14:03	08/01/24 03:44	1
Silver	ND		2.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Thallium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 03:44	1
Vanadium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 03:44	1
Zinc	**49**		16		ug/L		07/31/24 14:03	08/01/24 03:44	1

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: Trip Blank

Date Collected: 07/29/24 00:00
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-6

Matrix: Water

Method: SW846 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 12:58	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 12:58	1
Benzene	ND		1.0		ug/L			08/01/24 12:58	1
Chlorobenzene	ND		1.0		ug/L			08/01/24 12:58	1
Chloroethane	ND		2.0		ug/L			08/01/24 12:58	1
Chloroform	ND		1.0		ug/L			08/01/24 12:58	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 12:58	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 12:58	1
Diethyl ether	ND		1.0		ug/L			08/01/24 12:58	1
Isopropylbenzene	ND		1.0		ug/L			08/01/24 12:58	1
Tetrachloroethene	ND	*+	1.0		ug/L			08/01/24 12:58	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 12:58	1
Trichloroethene	ND		1.0		ug/L			08/01/24 12:58	1
Vinyl chloride	ND	*+	1.0		ug/L			08/01/24 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*08/01/24 12:58*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*08/01/24 12:58*	*1*
Dibromofluoromethane (Surr)	*104*		*70 - 130*		*08/01/24 12:58*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*08/01/24 12:58*	*1*

Surrogate Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

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

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)	(70-130)
620-19982-1	MW-4	108	100	106	99
620-19982-2	MW-5	109	100	105	101
620-19982-3	MW-6	108	99	105	100
620-19982-4	MW-7	109	101	104	100
620-19982-5	MW-8	103	93	108	102
620-19982-6	Trip Blank	107	102	104	100
LCS 620-37291/4	Lab Control Sample	104	99	107	101
LCS 620-37443/4	Lab Control Sample	98	100	104	100
LCSD 620-37291/5	Lab Control Sample Dup	104	101	106	101
LCSD 620-37443/5	Lab Control Sample Dup	96	100	102	101
MB 620-37291/7	Method Blank	108	101	105	101
MB 620-37443/7	Method Blank	97	93	102	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

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

Lab Sample ID: MB 620-37291/7
Matrix: Water
Analysis Batch: 37291

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/01/24 11:26	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/01/24 11:26	1
Benzene	ND		1.0		ug/L			08/01/24 11:26	1
Chlorobenzene	ND		1.0		ug/L			08/01/24 11:26	1
Chloroethane	ND		2.0		ug/L			08/01/24 11:26	1
Chloroform	ND		1.0		ug/L			08/01/24 11:26	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 11:26	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/01/24 11:26	1
Diethyl ether	ND		1.0		ug/L			08/01/24 11:26	1
Isopropylbenzene	ND		1.0		ug/L			08/01/24 11:26	1
Tetrachloroethene	ND		1.0		ug/L			08/01/24 11:26	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/01/24 11:26	1
Trichloroethene	ND		1.0		ug/L			08/01/24 11:26	1
Vinyl chloride	ND		1.0		ug/L			08/01/24 11:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*08/01/24 11:26*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*08/01/24 11:26*	*1*
Dibromofluoromethane (Surr)	*105*		*70 - 130*		*08/01/24 11:26*	*1*
Toluene-d8 (Surr)	*101*		*70 - 130*		*08/01/24 11:26*	*1*

Lab Sample ID: LCS 620-37291/4
Matrix: Water
Analysis Batch: 37291

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethane			20.0	20.2		ug/L		101	81 - 120		
1,4-Dichlorobenzene			20.0	18.8		ug/L		94	86 - 116		
Benzene			20.0	19.7		ug/L		99	86 - 111		
Chlorobenzene			20.0	19.1		ug/L		96	93 - 115		
Chloroethane			20.0	19.9		ug/L		99	56 - 155		
Chloroform			20.0	22.1		ug/L		110	84 - 116		
cis-1,2-Dichloroethene			20.0	20.8		ug/L		104	81 - 124		
Dichlorodifluoromethane			20.0	15.6		ug/L		78	36 - 131		
Diethyl ether			20.0	19.9		ug/L		99	69 - 122		
Isopropylbenzene			20.0	19.7		ug/L		99	83 - 117		
Tetrachloroethene			20.0	23.1		ug/L		115	85 - 116		
trans-1,2-Dichloroethene			20.0	20.8		ug/L		104	81 - 127		
Trichloroethene			20.0	20.9		ug/L		105	74 - 118		
Vinyl chloride			20.0	26.9	*+	ug/L		134	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*
Dibromofluoromethane (Surr)	*107*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

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

Lab Sample ID: LCSD 620-37291/5
Matrix: Water
Analysis Batch: 37291

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane			20.0	20.4		ug/L		102	81 - 120	1	20
1,4-Dichlorobenzene			20.0	19.4		ug/L		97	86 - 116	4	20
Benzene			20.0	20.0		ug/L		100	86 - 111	1	20
Chlorobenzene			20.0	19.6		ug/L		98	93 - 115	3	20
Chloroethane			20.0	20.0		ug/L		100	56 - 155	1	20
Chloroform			20.0	22.1		ug/L		111	84 - 116	0	20
cis-1,2-Dichloroethene			20.0	21.1		ug/L		106	81 - 124	2	20
Dichlorodifluoromethane			20.0	15.8		ug/L		79	36 - 131	1	20
Diethyl ether			20.0	20.9		ug/L		104	69 - 122	5	20
Isopropylbenzene			20.0	20.2		ug/L		101	83 - 117	2	20
Tetrachloroethene			20.0	23.5	*+	ug/L		118	85 - 116	2	20
trans-1,2-Dichloroethene			20.0	21.5		ug/L		107	81 - 127	3	20
Trichloroethene			20.0	21.3		ug/L		106	74 - 118	2	20
Vinyl chloride			20.0	26.2	*+	ug/L		131	62 - 130	3	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
Dibromofluoromethane (Surr)	*106*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 620-37443/7
Matrix: Water
Analysis Batch: 37443

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0		ug/L			08/06/24 10:48	1
1,4-Dichlorobenzene	ND		1.0		ug/L			08/06/24 10:48	1
Benzene	ND		1.0		ug/L			08/06/24 10:48	1
Chlorobenzene	ND		1.0		ug/L			08/06/24 10:48	1
Chloroethane	ND		2.0		ug/L			08/06/24 10:48	1
Chloroform	ND		1.0		ug/L			08/06/24 10:48	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			08/06/24 10:48	1
Dichlorodifluoromethane	ND		2.0		ug/L			08/06/24 10:48	1
Diethyl ether	ND		1.0		ug/L			08/06/24 10:48	1
Isopropylbenzene	ND		1.0		ug/L			08/06/24 10:48	1
Tetrachloroethene	ND		1.0		ug/L			08/06/24 10:48	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			08/06/24 10:48	1
Trichloroethene	ND		1.0		ug/L			08/06/24 10:48	1
Vinyl chloride	ND		1.0		ug/L			08/06/24 10:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*70 - 130*		*08/06/24 10:48*	*1*
4-Bromofluorobenzene (Surr)	*93*		*70 - 130*		*08/06/24 10:48*	*1*
Dibromofluoromethane (Surr)	*102*		*70 - 130*		*08/06/24 10:48*	*1*
Toluene-d8 (Surr)	*100*		*70 - 130*		*08/06/24 10:48*	*1*

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

Lab Sample ID: LCS 620-37443/4
Matrix: Water
Analysis Batch: 37443

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,1-Dichloroethane			20.0	20.8		ug/L		104	81 - 120		
1,4-Dichlorobenzene			20.0	20.9		ug/L		104	86 - 116		
Benzene			20.0	21.3		ug/L		106	86 - 111		
Chlorobenzene			20.0	19.1		ug/L		96	93 - 115		
Chloroethane			20.0	19.9		ug/L		99	56 - 155		
Chloroform			20.0	20.5		ug/L		103	84 - 116		
cis-1,2-Dichloroethene			20.0	20.8		ug/L		104	81 - 124		
Dichlorodifluoromethane			20.0	14.3		ug/L		71	36 - 131		
Diethyl ether			20.0	16.9		ug/L		85	69 - 122		
Isopropylbenzene			20.0	20.5		ug/L		102	83 - 117		
Tetrachloroethene			20.0	19.6		ug/L		98	85 - 116		
trans-1,2-Dichloroethene			20.0	21.1		ug/L		106	81 - 127		
Trichloroethene			20.0	16.2		ug/L		81	74 - 118		
Vinyl chloride			20.0	19.3		ug/L		96	62 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*104*		*70 - 130*
Toluene-d8 (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 620-37443/5
Matrix: Water
Analysis Batch: 37443

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloroethane			20.0	20.7		ug/L		104	81 - 120	0	20
1,4-Dichlorobenzene			20.0	21.4		ug/L		107	86 - 116	2	20
Benzene			20.0	21.2		ug/L		106	86 - 111	0	20
Chlorobenzene			20.0	19.0		ug/L		95	93 - 115	1	20
Chloroethane			20.0	18.6		ug/L		93	56 - 155	6	20
Chloroform			20.0	20.1		ug/L		101	84 - 116	2	20
cis-1,2-Dichloroethene			20.0	21.2		ug/L		106	81 - 124	2	20
Dichlorodifluoromethane			20.0	13.3		ug/L		67	36 - 131	7	20
Diethyl ether			20.0	17.1		ug/L		86	69 - 122	1	20
Isopropylbenzene			20.0	20.6		ug/L		103	83 - 117	1	20
Tetrachloroethene			20.0	19.7		ug/L		99	85 - 116	0	20
trans-1,2-Dichloroethene			20.0	21.3		ug/L		107	81 - 127	1	20
Trichloroethene			20.0	16.4		ug/L		82	74 - 118	1	20
Vinyl chloride			20.0	19.0		ug/L		95	62 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
Dibromofluoromethane (Surr)	*102*		*70 - 130*
Toluene-d8 (Surr)	*101*		*70 - 130*

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 460-988157/1-A
Matrix: Water
Analysis Batch: 988218

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 988157

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Arsenic	ND		2.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Barium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Beryllium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 02:19	1
Cadmium	ND		2.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Chromium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Cobalt	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Copper	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Lead	ND		1.2		ug/L		07/31/24 14:03	08/01/24 02:19	1
Nickel	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Selenium	ND		2.5		ug/L		07/31/24 14:03	08/01/24 02:19	1
Silver	ND		2.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Thallium	ND		0.80		ug/L		07/31/24 14:03	08/01/24 02:19	1
Vanadium	ND		4.0		ug/L		07/31/24 14:03	08/01/24 02:19	1
Zinc	ND		16		ug/L		07/31/24 14:03	08/01/24 02:19	1

Lab Sample ID: LCS 460-988157/2-A
Matrix: Water
Analysis Batch: 988218

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 988157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	25.0	26.2		ug/L		105	80 - 120
Arsenic	50.0	55.0		ug/L		110	80 - 120
Barium	50.0	54.0		ug/L		108	80 - 120
Beryllium	25.0	24.3		ug/L		97	80 - 120
Cadmium	25.0	25.9		ug/L		104	80 - 120
Chromium	50.0	55.8		ug/L		112	80 - 120
Cobalt	25.0	27.4		ug/L		110	80 - 120
Copper	50.0	55.9		ug/L		112	80 - 120
Lead	25.0	26.0		ug/L		104	80 - 120
Nickel	50.0	56.5		ug/L		113	80 - 120
Selenium	50.0	52.8		ug/L		106	80 - 120
Silver	25.0	21.9		ug/L		88	80 - 120
Thallium	20.0	21.0		ug/L		105	80 - 120
Vanadium	50.0	53.6		ug/L		107	80 - 120
Zinc	250	264		ug/L		106	80 - 120

Lab Sample ID: MB 460-988264/1-A
Matrix: Water
Analysis Batch: 988392

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 988264

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Arsenic	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Barium	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Beryllium	ND		0.80		ug/L		07/31/24 20:20	08/01/24 11:34	1
Cadmium	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Chromium	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Cobalt	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 460-988264/1-A
Matrix: Water
Analysis Batch: 988392

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 988264

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Copper	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Lead	ND		1.2		ug/L		07/31/24 20:20	08/01/24 11:34	1
Nickel	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Selenium	ND		2.5		ug/L		07/31/24 20:20	08/01/24 11:34	1
Silver	ND		2.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Thallium	ND		0.80		ug/L		07/31/24 20:20	08/01/24 11:34	1
Vanadium	ND		4.0		ug/L		07/31/24 20:20	08/01/24 11:34	1
Zinc	ND		16		ug/L		07/31/24 20:20	08/01/24 11:34	1

Lab Sample ID: LCS 460-988264/2-A
Matrix: Water
Analysis Batch: 988392

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 988264

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	25.0	22.8		ug/L		91	80 - 120
Arsenic	50.0	47.5		ug/L		95	80 - 120
Barium	50.0	46.5		ug/L		93	80 - 120
Beryllium	25.0	22.6		ug/L		90	80 - 120
Cadmium	25.0	22.9		ug/L		91	80 - 120
Chromium	50.0	46.8		ug/L		94	80 - 120
Cobalt	25.0	23.7		ug/L		95	80 - 120
Copper	50.0	47.9		ug/L		96	80 - 120
Lead	25.0	22.9		ug/L		92	80 - 120
Nickel	50.0	46.2		ug/L		92	80 - 120
Selenium	50.0	45.9		ug/L		92	80 - 120
Thallium	20.0	18.4		ug/L		92	80 - 120
Vanadium	50.0	47.2		ug/L		94	80 - 120
Zinc	250	226		ug/L		90	80 - 120

Lab Sample ID: 620-19982-1 MS
Matrix: Water
Analysis Batch: 988392

Client Sample ID: MW-4
Prep Type: Total Recoverable
Prep Batch: 988264

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	ND		25.0	25.3		ug/L		99	75 - 125
Arsenic	ND		50.0	51.1		ug/L		102	75 - 125
Barium	44		50.0	94.1		ug/L		100	75 - 125
Beryllium	ND		25.0	24.3		ug/L		97	75 - 125
Cadmium	2.0		25.0	26.1		ug/L		97	75 - 125
Chromium	ND		50.0	49.6		ug/L		99	75 - 125
Cobalt	ND		25.0	25.2		ug/L		101	75 - 125
Copper	39		50.0	88.3		ug/L		99	75 - 125
Lead	3.6		25.0	28.2		ug/L		99	75 - 125
Nickel	27		50.0	76.1		ug/L		99	75 - 125
Selenium	ND		50.0	49.7		ug/L		99	75 - 125
Silver	ND	*-	25.0	20.1		ug/L		81	75 - 125
Thallium	ND		20.0	20.0		ug/L		100	75 - 125
Vanadium	ND		50.0	49.9		ug/L		100	75 - 125
Zinc	1200		250	1390	4	ug/L		89	75 - 125

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: 620-19982-1 DU
Matrix: Water
Analysis Batch: 988392

Client Sample ID: MW-4
Prep Type: Total Recoverable
Prep Batch: 988264

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	ND		ND		ug/L		NC	20
Arsenic	ND		ND		ug/L		NC	20
Barium	44		40.9		ug/L		8	20
Beryllium	ND		ND		ug/L		NC	20
Cadmium	2.0		2.28		ug/L		13	20
Chromium	ND		ND		ug/L		NC	20
Cobalt	ND		ND		ug/L		NC	20
Copper	39		37.7		ug/L		3	20
Lead	3.6		3.68		ug/L		3	20
Nickel	27		26.4		ug/L		0.7	20
Selenium	ND		ND		ug/L		NC	20
Thallium	ND		ND		ug/L		NC	20
Vanadium	ND		ND		ug/L		NC	20
Zinc	1200		1160		ug/L		0.4	20

Lab Sample ID: MB 460-988745/1-A
Matrix: Water
Analysis Batch: 988916

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 988745

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		2.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Arsenic	ND		2.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Barium	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Beryllium	ND		0.80		ug/L		08/03/24 19:10	08/05/24 19:07	1
Cadmium	ND		2.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Chromium	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Cobalt	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Copper	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Lead	ND		1.2		ug/L		08/03/24 19:10	08/05/24 19:07	1
Nickel	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Selenium	ND		2.5		ug/L		08/03/24 19:10	08/05/24 19:07	1
Silver	ND		2.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Thallium	ND		0.80		ug/L		08/03/24 19:10	08/05/24 19:07	1
Vanadium	ND		4.0		ug/L		08/03/24 19:10	08/05/24 19:07	1
Zinc	ND		16		ug/L		08/03/24 19:10	08/05/24 19:07	1

Lab Sample ID: LCS 460-988745/2-A
Matrix: Water
Analysis Batch: 988916

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 988745

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	25.0	25.9		ug/L		104	80 - 120
Arsenic	50.0	51.8		ug/L		104	80 - 120
Barium	50.0	54.6		ug/L		109	80 - 120
Beryllium	25.0	23.9		ug/L		95	80 - 120
Cadmium	25.0	25.1		ug/L		100	80 - 120
Chromium	50.0	48.5		ug/L		97	80 - 120
Cobalt	25.0	25.1		ug/L		100	80 - 120
Copper	50.0	50.9		ug/L		102	80 - 120

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 460-988745/2-A
Matrix: Water
Analysis Batch: 988916

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 988745

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	25.0	25.5		ug/L		102	80 - 120
Nickel	50.0	50.2		ug/L		100	80 - 120
Selenium	50.0	51.1		ug/L		102	80 - 120
Silver	25.0	26.0		ug/L		104	80 - 120
Thallium	20.0	20.0		ug/L		100	80 - 120
Vanadium	50.0	48.0		ug/L		96	80 - 120
Zinc	250	242		ug/L		97	80 - 120

GC/MS VOA

Analysis Batch: 37291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-1	MW-4	Total/NA	Water	8260C	
620-19982-2	MW-5	Total/NA	Water	8260C	
620-19982-3	MW-6	Total/NA	Water	8260C	
620-19982-4	MW-7	Total/NA	Water	8260C	
620-19982-6	Trip Blank	Total/NA	Water	8260C	
MB 620-37291/7	Method Blank	Total/NA	Water	8260C	
LCS 620-37291/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-37291/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 37443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-5	MW-8	Total/NA	Water	8260C	
MB 620-37443/7	Method Blank	Total/NA	Water	8260C	
LCS 620-37443/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-37443/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Metals

Prep Batch: 988157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-2	MW-5	Total Recoverable	Water	3005A	
620-19982-3	MW-6	Total Recoverable	Water	3005A	
620-19982-4	MW-7	Total Recoverable	Water	3005A	
620-19982-5	MW-8	Total Recoverable	Water	3005A	
MB 460-988157/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 460-988157/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 988218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-2	MW-5	Total Recoverable	Water	6020B	988157
620-19982-3	MW-6	Total Recoverable	Water	6020B	988157
620-19982-4	MW-7	Total Recoverable	Water	6020B	988157
620-19982-5	MW-8	Total Recoverable	Water	6020B	988157
MB 460-988157/1-A	Method Blank	Total Recoverable	Water	6020B	988157
LCS 460-988157/2-A	Lab Control Sample	Total Recoverable	Water	6020B	988157

Prep Batch: 988264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-1	MW-4	Total Recoverable	Water	3005A	
MB 460-988264/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 460-988264/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
620-19982-1 MS	MW-4	Total Recoverable	Water	3005A	
620-19982-1 DU	MW-4	Total Recoverable	Water	3005A	

Analysis Batch: 988392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-1	MW-4	Total Recoverable	Water	6020B	988264
MB 460-988264/1-A	Method Blank	Total Recoverable	Water	6020B	988264
LCS 460-988264/2-A	Lab Control Sample	Total Recoverable	Water	6020B	988264
620-19982-1 MS	MW-4	Total Recoverable	Water	6020B	988264
620-19982-1 DU	MW-4	Total Recoverable	Water	6020B	988264

QC Association Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Metals

Prep Batch: 988745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-1	MW-4	Total Recoverable	Water	3005A	
MB 460-988745/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 460-988745/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 988916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-19982-1	MW-4	Total Recoverable	Water	6020B	988745
MB 460-988745/1-A	Method Blank	Total Recoverable	Water	6020B	988745
LCS 460-988745/2-A	Lab Control Sample	Total Recoverable	Water	6020B	988745

Lab Chronicle

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: MW-4
Date Collected: 07/29/24 09:15
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37291	CLR	EET RI	08/01/24 14:54
Total Recoverable	Prep	3005A			988745	GAE	EET EDI	08/03/24 19:10
Total Recoverable	Analysis	6020B		1	988916	MDC	EET EDI	08/05/24 19:33
Total Recoverable	Prep	3005A			988264	GAE	EET EDI	07/31/24 20:20
Total Recoverable	Analysis	6020B		1	988392	JKF	EET EDI	08/01/24 11:46

Client Sample ID: MW-5
Date Collected: 07/29/24 12:50
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37291	CLR	EET RI	08/01/24 15:18
Total Recoverable	Prep	3005A			988157	NNW	EET EDI	07/31/24 14:03
Total Recoverable	Analysis	6020B		1	988218	DLE	EET EDI	08/01/24 03:36

Client Sample ID: MW-6
Date Collected: 07/29/24 10:55
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37291	CLR	EET RI	08/01/24 15:41
Total Recoverable	Prep	3005A			988157	NNW	EET EDI	07/31/24 14:03
Total Recoverable	Analysis	6020B		1	988218	DLE	EET EDI	08/01/24 03:39

Client Sample ID: MW-7
Date Collected: 07/29/24 10:15
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37291	CLR	EET RI	08/01/24 16:04
Total Recoverable	Prep	3005A			988157	NNW	EET EDI	07/31/24 14:03
Total Recoverable	Analysis	6020B		1	988218	DLE	EET EDI	08/01/24 03:41

Client Sample ID: MW-8
Date Collected: 07/29/24 11:55
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37443	CLR	EET RI	08/06/24 15:33
Total Recoverable	Prep	3005A			988157	NNW	EET EDI	07/31/24 14:03
Total Recoverable	Analysis	6020B		1	988218	DLE	EET EDI	08/01/24 03:44

Lab Chronicle

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Client Sample ID: Trip Blank

Date Collected: 07/29/24 00:00
Date Received: 07/30/24 08:50

Lab Sample ID: 620-19982-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260C		1	37291	CLR	EET RI	08/01/24 12:58

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

EET RI = Eurofins Rhode Island, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Accreditation/Certification Summary

Client: Atlas Technical Consultants LLC
Job ID: 620-19982-1
Project/Site: Portsmouth Landfill

Laboratory: Eurofins Rhode Island

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	7165.01	01-31-26
Connecticut	State	PH-0722	06-30-26
Maine	State	RI00100	05-09-25
Massachusetts	State	M-RI907	06-30-24 *
New Hampshire	NELAP	2240	08-03-25
New Jersey	NELAP	RI008	06-30-25
New York	NELAP	11393	03-31-25
Rhode Island	State	LAI00368	12-31-23 *

Laboratory: Eurofins Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0818	09-30-24
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	01-02-25
Georgia	State	12028 (NJ)	07-01-25
Massachusetts	State	M-NJ312	07-01-25
New Jersey	NELAP	12028	06-30-25
New York	NELAP	11452	04-01-25
Pennsylvania	NELAP	68-00522	02-28-25
Rhode Island	State	LAO00376	12-31-24
USDA	US Federal Programs	525-24-149-77606	05-21-27

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	EET RI
6020B	Metals (ICP/MS)	SW846	EET EDI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET EDI
5030C	Purge and Trap	SW846	EET RI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET EDI = Eurofins Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

EET RI = Eurofins Rhode Island, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Sample Summary

Client: Atlas Technical Consultants LLC
Project/Site: Portsmouth Landfill

Job ID: 620-19982-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-19982-1	MW-4	Water	07/29/24 09:15	07/30/24 08:50
620-19982-2	MW-5	Water	07/29/24 12:50	07/30/24 08:50
620-19982-3	MW-6	Water	07/29/24 10:55	07/30/24 08:50
620-19982-4	MW-7	Water	07/29/24 10:15	07/30/24 08:50
620-19982-5	MW-8	Water	07/29/24 11:55	07/30/24 08:50
620-19982-6	Trip Blank	Water	07/29/24 00:00	07/30/24 08:50

>> Select a Laboratory or Service Center <<

Eurfins New England
646 Camp Ave
North Kingstown, RI 02852
413.789.9018

Chain of Custody Record

19982

eurofins | Environment Testing America

Regulatory Program ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **RIDEM GA GW Limits**

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact	Project Manager: Adrienne Kee	Site Contact: Adrienne Kee	Date:	COC No:
Atlas dba ATC Group Services	Email: adrienne.kee@oneatlas.com	Lab Contact: Becky Mason	Carrier:	1 of 1 COCs
10 State St, Suite 100	Tel: 401.741.2183			TALS Project #:
Woburn, MA 01801	Analysis Turnaround Time			Sampler:
Adrienne Kee 401.741.2183	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below _____			Walk-in Client:
Project Name: Portsmouth Landfill	☐ 2 weeks			Lab Sampling:
Site: Park Ave, Portsmouth RI	☐ 1 week			
P O # 3010000351	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sampled By: Mark Wagner

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VOCs (8260)	Total Sb, As, Ba, Be, Cd, Cr, Co,	Total Cu, Pb, Ni, Se, Ag, Tl, V, Zn	Sample Specific Notes
~~MW-1~~			G	GW		N		X	X		
~~MW-2~~											
~~MW-3~~											
-1 MW-4	7/29/24	0915	G	GW	4			X	X	X	
-2 MW-5		1250			4			X	X	X	
-3 MW-6		1055			4			X	X	X	
-4 MW-7		1015			4			X	X	X	
-5 MW-8		1155			4			X	X		
-6 Trip Blank		-		W	2			X	X		
								1,2	1,4		

620-19982 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammabl ☐ Skin Irritant ☐ Poison B ☑ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☑ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments: Need RIDEM GA Groundwater Limits

iced 5.0/+0.4/5.4 EDD ✓

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: _____ Corr'd: _____	Therm ID No.: _____
Relinquished by:	Company: Atlas	Date/Time: 7/30/24 0930	Received by:	Company:	Date/Time:
Relinquished by:	Company: Atlas	Date/Time:	Received by:	Company: ESNE	Date/Time: 7/30/24 8:50
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.35, dated 10/6/2020

Eurofins Rhode Island
646 Camp Ave
North Kingstown, RI 02852
Phone: 413-789-9018 Fax: 413-506-3830

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-16101 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Becky.Mason@et.eurofinsus.com	State of Origin: Rhode Island	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast L		Accreditations Required (See note):		Job #: 620-19982-1
Address: 777 New Durham Road,	Due Date Requested: 8/7/2024			Preservation Codes:
City: Edison	TAT Requested (days):			
State, Zip: NJ 08817				
Phone: 732-549-3900(Tel) 732-549-3679(Fax)	PO #:			
Email:	WO #:			
Project Name: Portsmouth Landfill	Project #: 62001688			
Site:	SSOW#:			Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6020B/3005A 6020 Metals	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-4 (620-19982-1)	7/29/24	09:15 Eastern		Water			X	1	
MW-5 (620-19982-2)	7/29/24	12:50 Eastern		Water			X	1	
MW-6 (620-19982-3)	7/29/24	10:55 Eastern		Water			X	1	
MW-7 (620-19982-4)	7/29/24	10:15 Eastern		Water			X	1	
MW-8 (620-19982-5)	7/29/24	11.55 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I II III, IV Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fedex			
Relinquished by:	Date/Time: 7/30/24 16:15	Company: ERI	Received by: B Parker	Date/Time: 7/31/24 9:30	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

IR 9 1.2 c 1.6 c 1.4 c 1.8 c

Ver: 04/02/2024

8/8/2024

Login Sample Receipt Checklist

Client: Atlas Technical Consultants LLC

Job Number: 620-19982-1

Login Number: 19982
List Number: 1
Creator: Makhoul, Elie

List Source: Eurofins Rhode Island

Question	Answer	Comment
Radioactivity is at or below background levels?	N/A	
The cooler's custody seal is present and intact?	N/A	
The cooler or samples do not appear to have been compromised or tampered with?	N/A	
Samples were received on Ice?	True	
Containers are not broken or leaking?	True	
There are no samples present with short holding-time parameters?	True	
Quick TAT was not requested?	True	
COC is present?	True	
COC is filled out in ink and legible?	True	
COC is filled out completely?	True	
COC includes all required signatures?	True	
Is the Field Sampler's name present on COC?	True	
Sample containers have legible labels?	True	
COC matches up to all samples in the cooler?	True	
Sample ID's on containers match exactly the sample ID's on COC?	True	
Appropriate sample containers are used?	True	
Sample collection date/times are provided?	True	
Samples are received within Holding Time?	True	
Cooler Temperature is acceptable: <6 degC, with no frozen samples?	True	
Cooler Temperature is recorded?	True	
Sample bottles are completely filled?	True	
There is sufficient volume for all the requested analyses?	True	
Appropriate sample preservatives were used?	True	
Aqueous inorganic sample pHs are acceptable?	True	
Aqueous semi-volatile organics sample pHs are acceptable?	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter?	True	
MS/MSD was not requested and not extra volume was sent?	True	
Samples do not require splitting or compositing?	True	
Multiphase samples are not present?	True	
Trip Blank was not provided/required?	True	
A sample discrepancy report is not needed?	N/A	

Login Sample Receipt Checklist

Client: Atlas Technical Consultants LLC

Job Number: 620-19982-1

Login Number: 19982
List Number: 2
Creator: Armbruster, Chris

List Source: Eurofins Edison
List Creation: 07/31/24 11:39 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2/1.6°, 1.4/1.8°C IR9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	