



**ENVIRONMENTAL • GEOTECHNICAL  
BUILDING SCIENCES • MATERIALS TESTING**

**GROUNDWATER & LANDFILL GAS MONITORING REPORT No. 2  
THE FORMER PORTSMOUTH LANDFILL  
PARK AVENUE  
PORTSMOUTH, RI 02871**

**ATC PROJECT No. 3010000238**

PREPARED FOR:

AP ENTERPRISE LLC  
28 TEAL DRIVE  
WAKEFIELD, RHODE ISLAND 02879

PREPARED BY:

ATC GROUP SERVICES LLC  
400 RESERVOIR AVENUE, SUITE 2C  
PROVIDENCE, RHODE ISLAND 02907

OCTOBER 6, 2017

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## 1.0 INTRODUCTION

ATC Group Services LLC (ATC) was retained by AP Enterprise to install four groundwater monitoring wells and landfill gas monitoring points, and to conduct two years of quarterly groundwater and landfill gas monitoring at the former Portsmouth Landfill located on Park Avenue in Portsmouth, Rhode Island (the Site). The objective this work is to support the Rhode Island Department of Environmental Management (RIDEM) approved Site Monitoring Plan as prepared by Tim O'Connor & Company LLC. This is the second quarterly report prepared by ATC.

### 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 is generally level, with downward slopes along the landfill margins. Please refer to **Appendix A** for a Site Locus Map and a Site Plan developed by DiPrete Engineering.

## 2.0 FIELD ACTIVITIES

The following activities were conducted evaluate the potential presence of contamination in soil gas and groundwater as result of historic landfill activities.

### 2.1 Monitoring Well Gauging and Area Groundwater Flow

On April 25, 2017, four soil borings completed as groundwater monitoring wells (MW-1, MW-2, MW-3 and MW-4) were installed at the Site by TDS Technical Drilling Services (TDS) of Sterling, MA. Groundwater monitoring well locations are depicted on the Site Plan presented as **Figure 2**.

Groundwater monitoring wells were constructed in each of the four soil borings using two-inch diameter, polyvinyl chloride (PVC) riser and 10 to 15 feet of machine-slotted 0.01 inch well screen. The well screen was placed to intercept the groundwater table.

On September 8, 2017, ATC gauged the depth to groundwater in the monitoring wells using an ORS electronic oil/water interface probe. ATC gauged the depth to groundwater from the top of the PVC well risers. The depth to groundwater ranged from 7.81 feet in MW-1 to 15.15 feet in MW-3. Non-aqueous phase liquids were not detected on the water surface, or in the bottom of the wells.

On June 15, 2017, DiPrete Engineering completed a well elevation survey of the recently installed monitoring wells. The monitoring wells were surveyed with reference to mean sea level. Based upon the well elevation survey, the depth to groundwater and resulting groundwater gradients indicate the flow is directed radially away from well MW-3. The highest groundwater elevation (2.90 feet above mean sea level) was noted at well MW-3. Based upon the groundwater elevation data present at this time, the groundwater gradient is directed toward the south on the southern portion of the Site, to the north on the northern portion of the Site and to the east on the eastern portion. A Water Level Gauging Sheet is provided in **Appendix A**. A Groundwater Contour Map developed using the Golden Software "Surfer Program" is superimposed on **Figure 2**.

## 2.2 Groundwater Sampling and Analysis

On September 8, 2017, ATC completed the second quarterly groundwater sampling round. The groundwater samples were obtained using the USEPA's Low Stress Purging and Sampling Procedure (EQA SOP-GW-001). ATC used variable speed low-flow peristaltic pump to control the rate of purging and limit the drawdown. Disposable polyethylene tubing was used at each well. Field parameters were recorded during sampling using a YSI Pro Series with flow-through cell and LaMotte turbidity meter. Field parameters included pH, water temperature, specific conductance, oxidation reduction potential (ORP) and dissolved oxygen. The groundwater samples were collected upon parameter stabilization, and contained in laboratory grade and pre-preserved sample containers. The samples were chilled in a cooler and transported under Chain of Custody to the ESS Laboratory. ESS analyzed the samples for volatile organic compounds (VOCs) via EPA Method 8260, and metals via EPA Methods 6010 and 7010.

## 2.3 Groundwater Analytical Results

Lead was detected in MW-3 at a concentration of 0.027 milligrams per liter (mg/L), exceeding the applicable RIDEM GA Groundwater Objective of 0.015 mg/L. No other metals or VOCs were reported in excess of the RIDEM GA Groundwater Objectives. Other detected analytes included barium in MW-1; barium and chlorobenzene in MW-2; barium, chlorobenzene, diethyl ether, isopropylbenzene in MW-3; and barium, cadmium, copper and chloroform in MW-4. The groundwater data is summarized on **Table 1**. Refer to **Appendix B** for copies of the laboratory analytical reports.

## 2.4 Soil Gas Point Installation

On April 25, 2017, TDS installed four permanent soil gas points (SGPs) (SG-1, SG-1, SG-1 and SG-4). The four peripheral SGPs are positioned to monitor for potential landfill gas migration away from the solid waste mound. These points are positioned between the landfill mound boundary and the nearby habitable structures. SGP locations are shown on **Figure 2**.

Each SGP was installed in the unsaturated zone, using a Geoprobe brand 21" stainless soil gas implant. The depth of placement was determined by the existing depth to groundwater at each location, which ranged from approximately four to ten feet below grade. Each SGP was backfilled with uniform grade, silica sand to approximately one foot above the screen section. Approximately one foot of bentonite was placed above the SGP to seal it from surface water intrusion. Each SGP was connected to 3/8" by 1/4" tubing that was brought to the ground surface. At the ground surface, the SGP tubing was protected by a two-inch, by five-foot lockable standpipe cemented at grade.

## 2.5 Soil Gas Monitoring

On September 8, 2017 the second quarterly round of landfill gas monitoring was conducted by ATC. The monitoring included recording of landfill gas and meteorological parameters at the four SGPs. Soil gas methane, hydrogen sulfide, oxygen and carbon dioxide concentrations were measured at each landfill gas monitoring points using a Landtech Gem 2000 Plus Landfill Gas Analyzer. The measurements were collected from the SGP petcocks. Additionally, ambient temperature, barometric pressure, wind speed and wind direction were measured and recorded for each point. SGPs are depicted on **Figure 2**. **Table 2** summarizes the monitoring results.

On September 8, 2017, methane was detected at peripheral monitoring point SG-3 at a concentration of 4.1%, which is below methane's lower explosive limit (LEL) of 5%. The concentration of methane detected 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.

No methane was detected at any other monitoring point. Hydrogen sulfide was not detected at any monitoring point. The recorded carbon dioxide concentrations at the monitoring points ranged from non-detectable up to 5% at SG-3. The oxygen concentrations at the peripheral monitoring points ranged from atmospheric (approximately 20.6%) in SG-1, SG-2 and SG-4 down to 11.7% at SG-3.

### 3.0 CONCLUSIONS

ATC has performed the second quarterly groundwater and landfill gas monitoring at the former Portsmouth town landfill on Park Avenue in Portsmouth, Rhode Island. Based upon the scope of work and sampling activities completed, ATC concludes the following:

- Lead was detected in MW-3 at 0.027 milligrams per liter (mg/L), exceeding the applicable RIDEM GA Groundwater Objective of 0.015 mg/L. No other metals and no VOCs were reported above applicable GA Groundwater Objectives in the four groundwater samples collected from MW-1 through MW-4 on September 8, 2017.
- The methane concentration during this quarter at SG-3 (4.1%) is significantly lower from the last quarter concentration. The methane concentration at SGP SG-3 was detected at 4.1%, which is below the methane LEL of 5%. The concentration of methane detected 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. The closest building to SG-3 is approximately 200 to the east. ATC does not think current conditions constitute a threat to human health, however conditions will be closely monitored.
- No methane was detected at any other peripheral monitoring point. Hydrogen sulfide was not detected at any peripheral monitoring point. The recorded carbon dioxide concentrations at the peripheral monitoring points ranged from non-detectable up to 5% at SG-3. The oxygen concentrations at the peripheral monitoring points ranged from atmospheric in SG-1, SG-2 and SG-4 down to 11.7% at SG-3.

## Figures

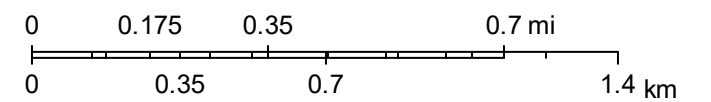
# RIDEM Environmental Resource Map



July 7, 2017

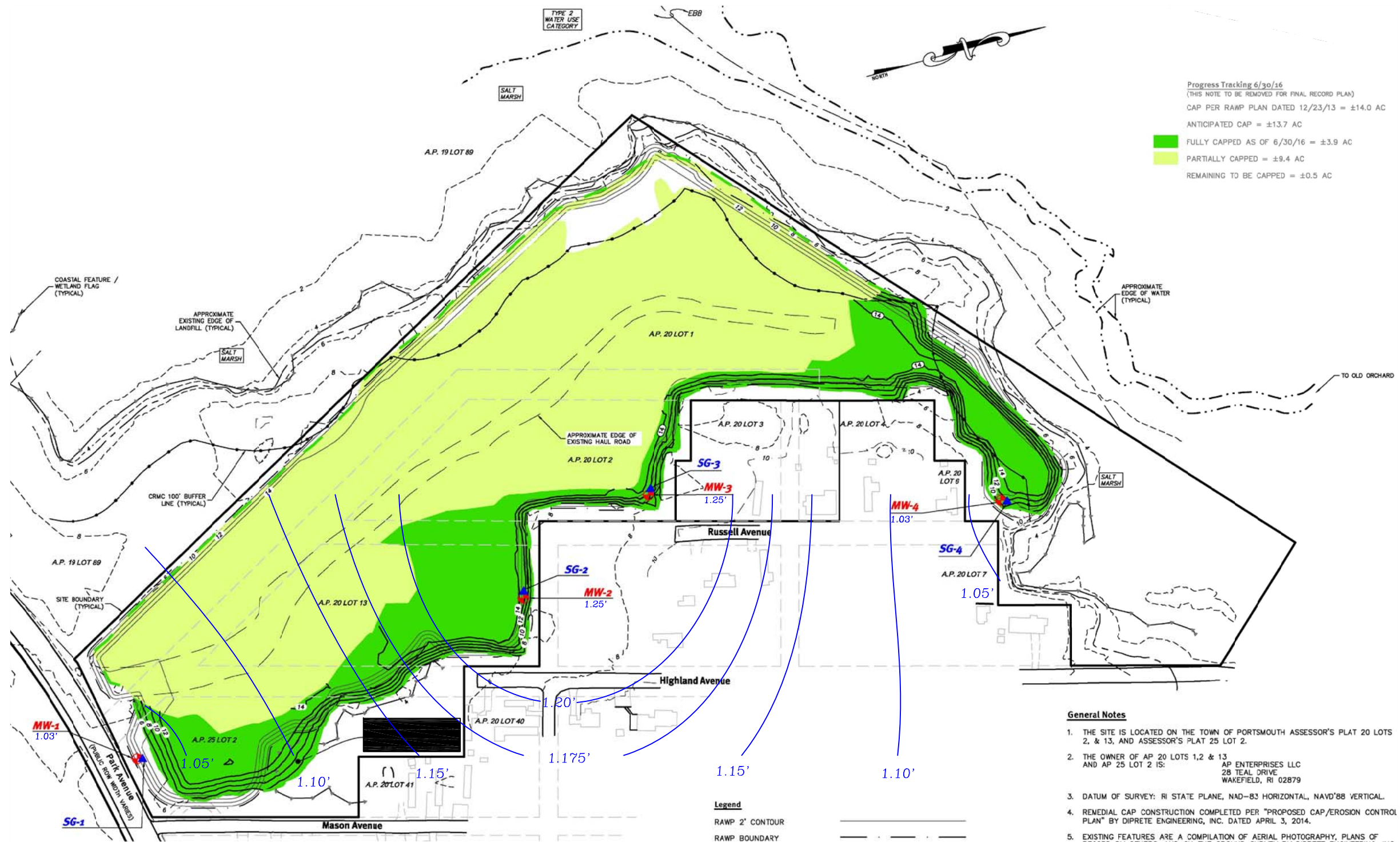
Figure 1: Site Locus Map

1:18,056



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



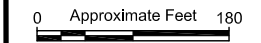


Progress Tracking 6/30/16  
 (THIS NOTE TO BE REMOVED FOR FINAL RECORD PLAN)  
 CAP PER RAWP PLAN DATED 12/23/13 = ±14.0 AC  
 ANTICIPATED CAP = ±13.7 AC  
 FULLY CAPPED AS OF 6/30/16 = ±3.9 AC  
 PARTIALLY CAPPED = ±9.4 AC  
 REMAINING TO BE CAPPED = ±0.5 AC

- Legend**
- RAWP 2' CONTOUR
  - RAWP BOUNDARY
  - FINAL CAP 2' CONTOUR
  - FINAL CAP BOUNDARY
  - EXISTING GROUND 10' CONTOUR
  - EXISTING GROUND 2' CONTOUR
  - PHASE 1 MONITORING WELL **MW-1**
  - PHASE 1 SOIL GAS POINT **SG-1**
  - GROUNDWATER ELEVATION [FEET] **1.03'**

- General Notes**
- THE SITE IS LOCATED ON THE TOWN OF PORTSMOUTH ASSESSOR'S PLAT 20 LOTS 2, & 13, AND ASSESSOR'S PLAT 25 LOT 2.
  - THE OWNER OF AP 20 LOTS 1, 2 & 13 AND AP 25 LOT 2 IS:  
 AP ENTERPRISES LLC  
 28 TEAL DRIVE  
 WAKEFIELD, RI 02879
  - DATUM OF SURVEY: RI STATE PLANE, NAD-83 HORIZONTAL, NAVD'88 VERTICAL.
  - REMEDIAL CAP CONSTRUCTION COMPLETED PER "PROPOSED CAP/EROSION CONTROL PLAN" BY DIPRETE ENGINEERING, INC. DATED APRIL 3, 2014.
  - EXISTING FEATURES ARE A COMPILATION OF AERIAL PHOTOGRAPHY, PLANS OF RECORD BY OTHERS, AND ON THE GROUND SURVEY BY DIPRETE ENGINEERING, INC.
  - THIS PLAN DEPICTS PRE-REMEDIAL TOPOGRAPHY OUTSIDE CAP AREA AS SHOWN ON "BOUNDARY & TOPOGRAPHIC SURVEY PLAN - ISLAND PARK" BY WATERMAN ENGINEERING CO. DATED 05/01/07 AND CONVERTED FROM DATUM NGVD29 TO DATUM NGVD88.
  - COASTAL FEATURE AND WETLANDS FLAGS / LINES SHOWN PER "GRADING PLAN, ISLAND PARK, AP 20 LOTS 1, 2 & 13 - AP 25 LOT 2, PORTSMOUTH, RHODE ISLAND" BY WATERMAN ENGINEERING, DATED 01/04/2010. FLAGGING BY VANASSE HANGEN BRUSTLIN, INC. AND LOCATED BY FIELD SURVEY BY WATERMAN ENGINEERING.
- Monitoring Notes**
- PHASE 1 MONITORING WELLS AND SOIL AND GAS POINTS INSTALLED 04/25/2017.
  - WATER TABLE ELEVATIONS COLLECTED 9/8/2017

The base map for this figure was developed from a Diprete Engineering plan entitled "Landfill Monitoring Plan, Former Portsmouth Landfill, revised 07-18-2017."



NAME/ADDRESS:  
**Prepared for**  
**AP Enterprise LLC**  
**28 Teal Drive, Wakefield, RI 02879**

DRAWING TITLE:  
**Former Portsmouth Landfill**

**ATC** 400 Reservoir Avenue, Suite 2C  
 Providence, RI 0290  
 (401) 714-0306

DRAWN BY:	KS	FIGURE NO.
CHECKED BY:	TO	<b>2</b>
PROJECT NO.	3010000238	
DATE:	OCTOBER 2, 2017	

## Tables

Table 1											
Groundwater Analytical Results Former Portsmouth Town Landfill Park Avenue, Portsmouth, Rhode Island											
Well ID	Date	Barium	Cadmium	Copper	Lead	Nickel	Zinc	1,4-Dichlorobenzene	Chlorobenzene	Diethyl Ether	Isopropylbenzene
MW-1	5/31/17	0.062	ND (0.0025)	ND (0.010)	ND (0.002)	ND (0.025)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/17	0.068	ND (0.0025)	ND (0.010)	ND (0.002)	ND (0.025)	ND (0.025)	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
MW-2	5/31/17	0.084	ND (0.0025)	ND (0.010)	0.005	ND (0.025)	0.044	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/17	0.177	ND (0.0025)	ND (0.010)	ND (0.010)	ND (0.025)	(ND 0.025)	ND (0.0010)	0.0012	ND (0.0010)	0.0034
MW-3	5/31/17	0.681	ND (0.0025)	ND (0.010)	ND (0.002)	ND (0.025)	0.035	0.0011	0.0040	0.0011	0.0240
	9/8/17	0.606	ND (0.0025)	ND (0.010)	0.027	ND (0.025)	ND (0.025)	ND (0.0010)	0.0026	0.0014	0.0025
MW-4	5/31/17	0.050	0.0043	0.057	ND (0.002)	0.042	1.53	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
	9/8/2017	0.030	0.0025	0.021	ND (0.002)	ND (0.025)	0.562	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)
RIDEM GA Groundwater Objectives		2	0.005	NS	0.015	0.1	NS	0.075	0.1	NS	NS

Notes: All units in mg/L = milligrams per liter unless otherwise noted  
 NS = No Standard  
 NA = Not Available or Not Analyzed  
 ND = not detected above method detection limit

Highlighted = RIDEM GA Grounwater exceedance

**Soil Gas Monitoring Data  
Former Portsmouth Landfill  
Park Avenue, Portsmouth, RI**

Location	Date	Ambient						Soil Gas				
		Temperature (F°)	Barometric Pressure (inches Hg)	Wind Velocity (miles per hour)	Wind Direction	Ambient Methane (CH4) (%)	Ambient Oxygen (O2) (%)	Soil Gas Methane (CH4) (%)	Soil Gas Oxygen (O2) (%)	Soil Gas Hydrogen Sulfide (H <sub>2</sub> S) (ppm)	Soil Gas LEL (%)	C02 (%)
SG-1	5/30/2017	54	30.24	4	SE	0.0	20.5	0	20.5	0	0	0
	9/8/2017	72	30.03	5	S	0.0	19.2	0	19.1	0	0	0
SG-2	5/30/2017	56	30.22	6	SE	0.0	20.6	0	20.6	0	0	0
	9/8/2017	72	30.03	8	S	0.0	19.4	0	19.3	0	0	0
SG-3	5/30/2017	56	30.22	6	SE	0.0	20.4	9.7	1.3	0	>100	12.5
	9/8/2017	73	30.04	4	SE	0.0	19.7	4.1	11.7	0	87	5
SG-4	5/30/2017	56	30.20	8	SE	0.0	20.1	0	19.6	0	0	0.2
	9/8/3017	73	30.05	6	SE	0.0	19.2	0	18.5	0	0	0.4

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

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

VOCs measured using a MiniRae 2000, (10.6 eV lamp) photoionization meter

## **Appendix A**

### WATER LEVEL MEASUREMENTS

<i>Location:</i>	Portsmouth Landfill, Park Ave.	<i>ATC #:</i>	3010000238
<i>Client:</i>	AP Enterprise LLC	<i>Date:</i>	9/8/17
<i>Instrument:</i>	ORS Interface Probe	<i>Gauged By:</i>	AK
<i>Checked By:</i>	KS		

WELL #	M.P. ELEVATIONS	DEPTH TO PRODUCT	DEPTH TO WATER	PRODUCT THICKNESS	EQUIVALENT HD ELEV.
MW-1	8.84	0.00	7.81	0.00	1.03
MW-2	16.25	0.00	15.00	0.00	1.25
MW-3	16.40	0.00	15.15	0.00	1.25
MW-4	14.09	0.00	13.06	0.00	1.03

**NOTES:**

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

Survey completed by DiPrete Engineering (6/15/17)

High Tide at 10:56 am

## **Appendix B**

## CERTIFICATE OF ANALYSIS

Keith Sullivan  
ATC Group Services  
400 Reservoir Ave Ste 2C  
Providence, RI 02907

**RE: Former Portsmouth Landfill (301.238)**  
**ESS Laboratory Work Order Number: 1709205**

This signed Certificate of Analysis is our approved release of your analytical results. These results are only representative of sample aliquots received at the laboratory. ESS Laboratory expects its clients to follow all regulatory sampling guidelines. Beginning with this page, the entire report has been paginated. This report should not be copied except in full without the approval of the laboratory. Samples will be disposed of thirty days after the final report has been delivered. If you have any questions or concerns, please feel free to call our Customer Service Department.



Laurel Stoddard  
Laboratory Director

**REVIEWED**

*By ESS Laboratory at 3:10 pm, Sep 18, 2017*

**Analytical Summary**

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration is frequently used instead of automated integration because it produces more accurate results.

The test results present in this report are in compliance with TNI and relative state standards, and/or client Quality Assurance Project Plans (QAPP). The laboratory has reviewed the following: Sample Preservations, Hold Times, Initial Calibrations, Continuing Calibrations, Method Blanks, Blank Spikes, Blank Spike Duplicates, Duplicates, Matrix Spikes, Matrix Spike Duplicates, Surrogates and Internal Standards. Any results which were found to be outside of the recommended ranges stated in our SOPs will be noted in the Project Narrative.





*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**SAMPLE RECEIPT**

The following samples were received on September 11, 2017 for the analyses specified on the enclosed Chain of Custody Record.

<b>Lab Number</b>	<b>Sample Name</b>	<b>Matrix</b>	<b>Analysis</b>
1709205-01	MW-1	Ground Water	6010C, 7010, 8260B
1709205-02	MW-2	Ground Water	6010C, 7010, 8260B
1709205-03	MW-3	Ground Water	6010C, 7010, 8260B
1709205-04	MW-4	Ground Water	6010C, 7010, 8260B
1709205-05	Trip Blank	Aqueous	8260B



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**PROJECT NARRATIVE**

**No unusual observations noted.**

**End of Project Narrative.**

**DATA USABILITY LINKS**

*To ensure you are viewing the most current version of the documents below, please clear your internet cookies for [www.ESSLaboratory.com](http://www.ESSLaboratory.com). Consult your IT Support personnel for information on how to clear your internet cookies.*

[Definitions of Quality Control Parameters](#)

[Semivolatile Organics Internal Standard Information](#)

[Semivolatile Organics Surrogate Information](#)

[Volatile Organics Internal Standard Information](#)

[Volatile Organics Surrogate Information](#)

[EPH and VPH Alkane Lists](#)



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**CURRENT SW-846 METHODOLOGY VERSIONS**

**Analytical Methods**

- 1010A - Flashpoint
- 6010C - ICP
- 6020A - ICP MS
- 7010 - Graphite Furnace
- 7196A - Hexavalent Chromium
- 7470A - Aqueous Mercury
- 7471B - Solid Mercury
- 8011 - EDB/DBCP/TCP
- 8015C - GRO/DRO
- 8081B - Pesticides
- 8082A - PCB
- 8100M - TPH
- 8151A - Herbicides
- 8260B - VOA
- 8270D - SVOA
- 8270D SIM - SVOA Low Level
- 9014 - Cyanide
- 9038 - Sulfate
- 9040C - Aqueous pH
- 9045D - Solid pH (Corrosivity)
- 9050A - Specific Conductance
- 9056A - Anions (IC)
- 9060A - TOC
- 9095B - Paint Filter
- MADEP 04-1.1 - EPH / VPH

**Prep Methods**

- 3005A - Aqueous ICP Digestion
- 3020A - Aqueous Graphite Furnace / ICP MS Digestion
- 3050B - Solid ICP / Graphite Furnace / ICP MS Digestion
- 3060A - Solid Hexavalent Chromium Digestion
- 3510C - Separatory Funnel Extraction
- 3520C - Liquid / Liquid Extraction
- 3540C - Manual Soxhlet Extraction
- 3541 - Automated Soxhlet Extraction
- 3546 - Microwave Extraction
- 3580A - Waste Dilution
- 5030B - Aqueous Purge and Trap
- 5030C - Aqueous Purge and Trap
- 5035 - Solid Purge and Trap

SW846 Reactivity Methods 7.3.3.2 (Reactive Cyanide) and 7.3.4.1 (Reactive Sulfide) have been withdrawn by EPA. These methods are reported per client request and are not NELAP accredited.



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-1  
Date Sampled: 09/08/17 11:05  
Percent Solids: N/A

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-01  
Sample Matrix: Ground Water  
Units: mg/L

Extraction Method: 3005A

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.002)		7010		1	KJK	09/14/17 7:24	50	25	CI71256
Arsenic	ND (0.002)		7010		1	KJK	09/14/17 13:07	50	25	CI71256
<b>Barium</b>	<b>0.068</b> (0.025)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Beryllium	ND (0.0005)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Cadmium	ND (0.0025)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Chromium	ND (0.010)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Cobalt	ND (0.010)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Copper	ND (0.010)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Lead	ND (0.002)		7010		1	KJK	09/14/17 4:22	50	25	CI71256
Nickel	ND (0.025)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Selenium	ND (0.005)		7010		1	KJK	09/14/17 18:57	50	25	CI71256
Silver	ND (0.005)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Thallium	ND (0.001)		7010		1	KJK	09/13/17 23:40	50	25	CI71256
Vanadium	ND (0.010)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256
Zinc	ND (0.025)		6010C		1	KJK	09/13/17 16:46	50	25	CI71256

*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: MW-1  
 Date Sampled: 09/08/17 11:05  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-01  
 Sample Matrix: Ground Water  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,1-Dichloropropene	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2-Dibromoethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,3-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1,4-Dioxane - Screen	ND (0.500)		8260B		1	09/12/17 0:48	C7I0143	CI71139
1-Chlorohexane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
2,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
2-Butanone	ND (0.0100)		8260B		1	09/12/17 0:48	C7I0143	CI71139
2-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
2-Hexanone	ND (0.0100)		8260B		1	09/12/17 0:48	C7I0143	CI71139
4-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
4-Isopropyltoluene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Acetone	ND (0.0100)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Benzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Bromobenzene	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-1  
Date Sampled: 09/08/17 11:05  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-01  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Bromodichloromethane	ND (0.0006)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Bromoform	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Bromomethane	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Carbon Disulfide	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Carbon Tetrachloride	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Chlorobenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Chloroethane	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Chloroform	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Chloromethane	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Dibromochloromethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Dibromomethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Dichlorodifluoromethane	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Diethyl Ether	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Di-isopropyl ether	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Ethylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Hexachlorobutadiene	ND (0.0006)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Hexachloroethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Isopropylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Methylene Chloride	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Naphthalene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
n-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
n-Propylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
sec-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Styrene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
tert-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Tetrachloroethene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-1  
Date Sampled: 09/08/17 11:05  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-01  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Toluene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Trichloroethene	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Trichlorofluoromethane	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Vinyl Acetate	ND (0.0050)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Vinyl Chloride	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Xylene O	ND (0.0010)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Xylene P,M	ND (0.0020)		8260B		1	09/12/17 0:48	C7I0143	CI71139
Xylenes (Total)	ND (0.0020)		8260B		1	09/12/17 0:48		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>99 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>108 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-2  
Date Sampled: 09/08/17 13:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-02  
Sample Matrix: Ground Water  
Units: mg/L

Extraction Method: 3005A

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.002)		7010		1	KJK	09/14/17 7:52	50	25	CI71256
Arsenic	ND (0.002)		7010		1	KJK	09/14/17 13:12	50	25	CI71256
<b>Barium</b>	<b>0.177 (0.025)</b>		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Beryllium	ND (0.0005)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Cadmium	ND (0.0025)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Chromium	ND (0.010)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Cobalt	ND (0.010)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Copper	ND (0.010)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Lead	ND (0.010)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Nickel	ND (0.025)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Selenium	ND (0.005)		7010		1	KJK	09/14/17 19:03	50	25	CI71256
Silver	ND (0.005)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Thallium	ND (0.001)		7010		1	KJK	09/13/17 23:46	50	25	CI71256
Vanadium	ND (0.010)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256
Zinc	ND (0.025)		6010C		1	KJK	09/13/17 16:50	50	25	CI71256





*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: MW-2  
 Date Sampled: 09/08/17 13:10  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-02  
 Sample Matrix: Ground Water  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,1-Dichloropropene	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2-Dibromoethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,3-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1,4-Dioxane - Screen	ND (0.500)		8260B		1	09/12/17 1:16	C7I0143	CI71139
1-Chlorohexane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
2,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
2-Butanone	ND (0.0100)		8260B		1	09/12/17 1:16	C7I0143	CI71139
2-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
2-Hexanone	ND (0.0100)		8260B		1	09/12/17 1:16	C7I0143	CI71139
4-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
4-Isopropyltoluene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Acetone	ND (0.0100)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Benzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Bromobenzene	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-2  
Date Sampled: 09/08/17 13:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Bromodichloromethane	ND (0.0006)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Bromoform	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Bromomethane	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Carbon Disulfide	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Carbon Tetrachloride	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
<b>Chlorobenzene</b>	<b>0.0012</b> (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Chloroethane	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Chloroform	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Chloromethane	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Dibromochloromethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Dibromomethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Dichlorodifluoromethane	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Diethyl Ether	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Di-isopropyl ether	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Ethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Hexachlorobutadiene	ND (0.0006)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Hexachloroethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
<b>Isopropylbenzene</b>	<b>0.0034</b> (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Methylene Chloride	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Naphthalene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
n-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
n-Propylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
sec-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Styrene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
tert-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Tetrachloroethene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-2  
Date Sampled: 09/08/17 13:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-02  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Toluene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Trichloroethene	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Trichlorofluoromethane	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Vinyl Acetate	ND (0.0050)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Vinyl Chloride	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Xylene O	ND (0.0010)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Xylene P,M	ND (0.0020)		8260B		1	09/12/17 1:16	C7I0143	CI71139
Xylenes (Total)	ND (0.0020)		8260B		1	09/12/17 1:16		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>101 %</i>		<i>70-130</i>
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>106 %</i>		<i>70-130</i>
<i>Surrogate: Dibromofluoromethane</i>	<i>109 %</i>		<i>70-130</i>
<i>Surrogate: Toluene-d8</i>	<i>101 %</i>		<i>70-130</i>



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-3  
Date Sampled: 09/08/17 13:55  
Percent Solids: N/A

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-03  
Sample Matrix: Ground Water  
Units: mg/L

Extraction Method: 3005A

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.002)		7010		1	KJK	09/14/17 8:09	50	25	CI71256
Arsenic	ND (0.002)		7010		1	KJK	09/14/17 13:18	50	25	CI71256
<b>Barium</b>	<b>0.606</b> (0.025)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Beryllium	ND (0.0005)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Cadmium	ND (0.0025)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Chromium	ND (0.010)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Cobalt	ND (0.010)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Copper	ND (0.010)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
<b>Lead</b>	<b>0.027</b> (0.010)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Nickel	ND (0.025)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Selenium	ND (0.005)		7010		1	KJK	09/14/17 19:32	50	25	CI71256
Silver	ND (0.005)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Thallium	ND (0.001)		7010		1	KJK	09/14/17 0:03	50	25	CI71256
Vanadium	ND (0.010)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256
Zinc	ND (0.025)		6010C		1	KJK	09/13/17 16:54	50	25	CI71256



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: MW-3  
 Date Sampled: 09/08/17 13:55  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-03  
 Sample Matrix: Ground Water  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,1-Dichloropropene	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2-Dibromoethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,3-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1,4-Dioxane - Screen	ND (0.500)		8260B		1	09/12/17 1:44	C7I0143	CI71139
1-Chlorohexane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
2,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
2-Butanone	ND (0.0100)		8260B		1	09/12/17 1:44	C7I0143	CI71139
2-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
2-Hexanone	ND (0.0100)		8260B		1	09/12/17 1:44	C7I0143	CI71139
4-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
4-Isopropyltoluene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Acetone	ND (0.0100)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Benzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Bromobenzene	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-3  
Date Sampled: 09/08/17 13:55  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-03  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Bromodichloromethane	ND (0.0006)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Bromoform	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Bromomethane	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Carbon Disulfide	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Carbon Tetrachloride	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
<b>Chlorobenzene</b>	<b>0.0026</b> (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Chloroethane	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Chloroform	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Chloromethane	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Dibromochloromethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Dibromomethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Dichlorodifluoromethane	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
<b>Diethyl Ether</b>	<b>0.0014</b> (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Di-isopropyl ether	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Ethylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Hexachlorobutadiene	ND (0.0006)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Hexachloroethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
<b>Isopropylbenzene</b>	<b>0.0025</b> (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Methylene Chloride	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Naphthalene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
n-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
n-Propylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
sec-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Styrene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
tert-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Tetrachloroethene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: MW-3  
 Date Sampled: 09/08/17 13:55  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-03  
 Sample Matrix: Ground Water  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Toluene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Trichloroethene	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Trichlorofluoromethane	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Vinyl Acetate	ND (0.0050)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Vinyl Chloride	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Xylene O	ND (0.0010)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Xylene P,M	ND (0.0020)		8260B		1	09/12/17 1:44	C7I0143	CI71139
Xylenes (Total)	ND (0.0020)		8260B		1	09/12/17 1:44		[CALC]

	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>
Surrogate: 1,2-Dichloroethane-d4	102 %		70-130
Surrogate: 4-Bromofluorobenzene	106 %		70-130
Surrogate: Dibromofluoromethane	109 %		70-130
Surrogate: Toluene-d8	102 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-4  
Date Sampled: 09/08/17 15:10  
Percent Solids: N/A

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-04  
Sample Matrix: Ground Water  
Units: mg/L

Extraction Method: 3005A

**Total Metals**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyst</u>	<u>Analyzed</u>	<u>I/V</u>	<u>F/V</u>	<u>Batch</u>
Antimony	ND (0.002)		7010		1	KJK	09/14/17 8:14	50	25	CI71256
Arsenic	ND (0.002)		7010		1	KJK	09/14/17 13:36	50	25	CI71256
<b>Barium</b>	<b>0.030</b> (0.025)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Beryllium	ND (0.0005)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
<b>Cadmium</b>	<b>0.0025</b> (0.0025)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Chromium	ND (0.010)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Cobalt	ND (0.010)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
<b>Copper</b>	<b>0.021</b> (0.010)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Lead	ND (0.002)		7010		1	KJK	09/14/17 4:45	50	25	CI71256
Nickel	ND (0.025)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Selenium	ND (0.005)		7010		1	KJK	09/14/17 19:38	50	25	CI71256
Silver	ND (0.005)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
Thallium	ND (0.001)		7010		1	KJK	09/14/17 0:14	50	25	CI71256
Vanadium	ND (0.010)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256
<b>Zinc</b>	<b>0.562</b> (0.025)		6010C		1	KJK	09/13/17 16:59	50	25	CI71256





*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: MW-4  
 Date Sampled: 09/08/17 15:10  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-04  
 Sample Matrix: Ground Water  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,1-Dichloropropene	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2-Dibromoethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2-Dichloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,3-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1,4-Dioxane - Screen	ND (0.500)		8260B		1	09/12/17 2:11	C7I0143	CI71139
1-Chlorohexane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
2,2-Dichloropropane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
2-Butanone	ND (0.0100)		8260B		1	09/12/17 2:11	C7I0143	CI71139
2-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
2-Hexanone	ND (0.0100)		8260B		1	09/12/17 2:11	C7I0143	CI71139
4-Chlorotoluene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
4-Isopropyltoluene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Acetone	ND (0.0100)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Benzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Bromobenzene	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-4  
Date Sampled: 09/08/17 15:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Bromodichloromethane	ND (0.0006)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Bromoform	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Bromomethane	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Carbon Disulfide	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Carbon Tetrachloride	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Chlorobenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Chloroethane	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
<b>Chloroform</b>	<b>0.0014</b> (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Chloromethane	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Dibromochloromethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Dibromomethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Dichlorodifluoromethane	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Diethyl Ether	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Di-isopropyl ether	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Ethylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Hexachlorobutadiene	ND (0.0006)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Hexachloroethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Isopropylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Methylene Chloride	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Naphthalene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
n-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
n-Propylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
sec-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Styrene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
tert-Butylbenzene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Tetrachloroethene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: MW-4  
Date Sampled: 09/08/17 15:10  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-04  
Sample Matrix: Ground Water  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Toluene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Trichloroethene	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Trichlorofluoromethane	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Vinyl Acetate	ND (0.0050)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Vinyl Chloride	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Xylene O	ND (0.0010)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Xylene P,M	ND (0.0020)		8260B		1	09/12/17 2:11	C7I0143	CI71139
Xylenes (Total)	ND (0.0020)		8260B		1	09/12/17 2:11		[CALC]

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	101 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	102 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	110 %		70-130
<i>Surrogate: Toluene-d8</i>	101 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: Trip Blank  
Date Sampled: 09/08/17 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-05  
Sample Matrix: Aqueous  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
1,1,1,2-Tetrachloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1,1-Trichloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1,2,2-Tetrachloroethane	ND (0.0005)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1,2-Trichloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1-Dichloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1-Dichloroethene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,1-Dichloropropene	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2,3-Trichlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2,3-Trichloropropane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2,4-Trichlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2,4-Trimethylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2-Dibromo-3-Chloropropane	ND (0.0050)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2-Dibromoethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2-Dichlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2-Dichloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,2-Dichloropropane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,3,5-Trimethylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,3-Dichlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,3-Dichloropropane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,4-Dichlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1,4-Dioxane - Screen	ND (0.500)		8260B		1	09/11/17 19:17	C7I0143	CI71139
1-Chlorohexane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
2,2-Dichloropropane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
2-Butanone	ND (0.0100)		8260B		1	09/11/17 19:17	C7I0143	CI71139
2-Chlorotoluene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
2-Hexanone	ND (0.0100)		8260B		1	09/11/17 19:17	C7I0143	CI71139
4-Chlorotoluene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
4-Isopropyltoluene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
4-Methyl-2-Pentanone	ND (0.0250)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Acetone	ND (0.0100)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Benzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Bromobenzene	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill  
 Client Sample ID: Trip Blank  
 Date Sampled: 09/08/17 00:00  
 Percent Solids: N/A  
 Initial Volume: 5  
 Final Volume: 5  
 Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
 ESS Laboratory Sample ID: 1709205-05  
 Sample Matrix: Aqueous  
 Units: mg/L  
 Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Bromochloromethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Bromodichloromethane	ND (0.0006)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Bromoform	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Bromomethane	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Carbon Disulfide	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Carbon Tetrachloride	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Chlorobenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Chloroethane	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Chloroform	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Chloromethane	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
cis-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
cis-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Dibromochloromethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Dibromomethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Dichlorodifluoromethane	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Diethyl Ether	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Di-isopropyl ether	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Ethyl tertiary-butyl ether	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Ethylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Hexachlorobutadiene	ND (0.0006)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Hexachloroethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Isopropylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Methyl tert-Butyl Ether	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Methylene Chloride	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Naphthalene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
n-Butylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
n-Propylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
sec-Butylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Styrene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
tert-Butylbenzene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Tertiary-amyl methyl ether	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Tetrachloroethene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill  
Client Sample ID: Trip Blank  
Date Sampled: 09/08/17 00:00  
Percent Solids: N/A  
Initial Volume: 5  
Final Volume: 5  
Extraction Method: 5030B

ESS Laboratory Work Order: 1709205  
ESS Laboratory Sample ID: 1709205-05  
Sample Matrix: Aqueous  
Units: mg/L  
Analyst: MD

**8260B Volatile Organic Compounds**

<u>Analyte</u>	<u>Results (MRL)</u>	<u>MDL</u>	<u>Method</u>	<u>Limit</u>	<u>DF</u>	<u>Analyzed</u>	<u>Sequence</u>	<u>Batch</u>
Tetrahydrofuran	ND (0.0050)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Toluene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
trans-1,2-Dichloroethene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
trans-1,3-Dichloropropene	ND (0.0004)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Trichloroethene	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Trichlorofluoromethane	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Vinyl Acetate	ND (0.0050)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Vinyl Chloride	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Xylene O	ND (0.0010)		8260B		1	09/11/17 19:17	C7I0143	CI71139
Xylene P,M	ND (0.0020)		8260B		1	09/11/17 19:17	C7I0143	CI71139

	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>
<i>Surrogate: 1,2-Dichloroethane-d4</i>	88 %		70-130
<i>Surrogate: 4-Bromofluorobenzene</i>	101 %		70-130
<i>Surrogate: Dibromofluoromethane</i>	101 %		70-130
<i>Surrogate: Toluene-d8</i>	104 %		70-130



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI71256 - 3005A**

**Blank**

Antimony	ND	0.002	mg/L							
Arsenic	ND	0.002	mg/L							
Barium	ND	0.025	mg/L							
Beryllium	ND	0.0005	mg/L							
Cadmium	ND	0.0025	mg/L							
Chromium	ND	0.010	mg/L							
Cobalt	ND	0.010	mg/L							
Copper	ND	0.010	mg/L							
Lead	ND	0.010	mg/L							
Lead	ND	0.002	mg/L							
Nickel	ND	0.025	mg/L							
Selenium	ND	0.005	mg/L							
Silver	ND	0.005	mg/L							
Thallium	ND	0.001	mg/L							
Vanadium	ND	0.010	mg/L							
Zinc	ND	0.025	mg/L							

**LCS**

Antimony	0.248	0.062	mg/L	0.2500	99	80-120				
Arsenic	0.257	0.062	mg/L	0.2500	103	80-120				
Barium	0.249	0.025	mg/L	0.2500	99	80-120				
Beryllium	0.0247	0.0005	mg/L	0.02500	99	80-120				
Cadmium	0.116	0.0025	mg/L	0.1250	93	80-120				
Chromium	0.246	0.010	mg/L	0.2500	98	80-120				
Cobalt	0.257	0.010	mg/L	0.2500	103	80-120				
Copper	0.245	0.010	mg/L	0.2500	98	80-120				
Lead	0.266	0.062	mg/L	0.2500	107	80-120				
Lead	0.246	0.010	mg/L	0.2500	98	80-120				
Nickel	0.256	0.025	mg/L	0.2500	102	80-120				
Selenium	0.526	0.125	mg/L	0.5000	105	80-120				
Silver	0.124	0.005	mg/L	0.1250	99	80-120				
Thallium	0.272	0.025	mg/L	0.2500	109	80-120				
Vanadium	0.249	0.010	mg/L	0.2500	100	80-120				
Zinc	0.251	0.025	mg/L	0.2500	100	80-120				

**LCS Dup**

Antimony	0.253	0.062	mg/L	0.2500	101	80-120	2	20		
Arsenic	0.256	0.062	mg/L	0.2500	103	80-120	0.4	20		
Barium	0.249	0.025	mg/L	0.2500	100	80-120	0.2	20		
Beryllium	0.0250	0.0005	mg/L	0.02500	100	80-120	1	20		
Cadmium	0.115	0.0025	mg/L	0.1250	92	80-120	0.9	20		
Chromium	0.248	0.010	mg/L	0.2500	99	80-120	0.8	20		
Cobalt	0.253	0.010	mg/L	0.2500	101	80-120	2	20		
Copper	0.247	0.010	mg/L	0.2500	99	80-120	0.5	20		
Lead	0.262	0.062	mg/L	0.2500	105	80-120	2	20		
Lead	0.242	0.010	mg/L	0.2500	97	80-120	2	20		



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**Total Metals**

**Batch CI71256 - 3005A**

Nickel	0.251	0.025	mg/L	0.2500		101	80-120	2	20	
Selenium	0.524	0.125	mg/L	0.5000		105	80-120	0.3	20	
Silver	0.125	0.005	mg/L	0.1250		100	80-120	0.5	20	
Thallium	0.267	0.025	mg/L	0.2500		107	80-120	2	20	
Vanadium	0.250	0.010	mg/L	0.2500		100	80-120	0.3	20	
Zinc	0.248	0.025	mg/L	0.2500		99	80-120	1	20	

**8260B Volatile Organic Compounds**

**Batch CI71139 - 5030B**

<b>Blank</b>										
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/L							
1,1,1-Trichloroethane	ND	0.0010	mg/L							
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L							
1,1,2-Trichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethane	ND	0.0010	mg/L							
1,1-Dichloroethene	ND	0.0010	mg/L							
1,1-Dichloropropene	ND	0.0020	mg/L							
1,2,3-Trichlorobenzene	ND	0.0010	mg/L							
1,2,3-Trichloropropane	ND	0.0010	mg/L							
1,2,4-Trichlorobenzene	ND	0.0010	mg/L							
1,2,4-Trimethylbenzene	ND	0.0010	mg/L							
1,2-Dibromo-3-Chloropropane	ND	0.0050	mg/L							
1,2-Dibromoethane	ND	0.0010	mg/L							
1,2-Dichlorobenzene	ND	0.0010	mg/L							
1,2-Dichloroethane	ND	0.0010	mg/L							
1,2-Dichloropropane	ND	0.0010	mg/L							
1,3,5-Trimethylbenzene	ND	0.0010	mg/L							
1,3-Dichlorobenzene	ND	0.0010	mg/L							
1,3-Dichloropropane	ND	0.0010	mg/L							
1,4-Dichlorobenzene	ND	0.0010	mg/L							
1,4-Dioxane - Screen	ND	0.500	mg/L							
1-Chlorohexane	ND	0.0010	mg/L							
2,2-Dichloropropane	ND	0.0010	mg/L							
2-Butanone	ND	0.0100	mg/L							
2-Chlorotoluene	ND	0.0010	mg/L							
2-Hexanone	ND	0.0100	mg/L							
4-Chlorotoluene	ND	0.0010	mg/L							
4-Isopropyltoluene	ND	0.0010	mg/L							
4-Methyl-2-Pentanone	ND	0.0250	mg/L							
Acetone	ND	0.0100	mg/L							
Benzene	ND	0.0010	mg/L							
Bromobenzene	ND	0.0020	mg/L							
Bromochloromethane	ND	0.0010	mg/L							
Bromodichloromethane	ND	0.0006	mg/L							
Bromoform	ND	0.0010	mg/L							





CERTIFICATE OF ANALYSIS

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

**Batch CI71139 - 50308**

Bromomethane	ND	0.0020	mg/L							
Carbon Disulfide	ND	0.0010	mg/L							
Carbon Tetrachloride	ND	0.0010	mg/L							
Chlorobenzene	ND	0.0010	mg/L							
Chloroethane	ND	0.0020	mg/L							
Chloroform	ND	0.0010	mg/L							
Chloromethane	ND	0.0020	mg/L							
cis-1,2-Dichloroethene	ND	0.0010	mg/L							
cis-1,3-Dichloropropene	ND	0.0004	mg/L							
Dibromochloromethane	ND	0.0010	mg/L							
Dibromomethane	ND	0.0010	mg/L							
Dichlorodifluoromethane	ND	0.0020	mg/L							
Diethyl Ether	ND	0.0010	mg/L							
Di-isopropyl ether	ND	0.0010	mg/L							
Ethyl tertiary-butyl ether	ND	0.0010	mg/L							
Ethylbenzene	ND	0.0010	mg/L							
Hexachlorobutadiene	ND	0.0006	mg/L							
Hexachloroethane	ND	0.0010	mg/L							
Isopropylbenzene	ND	0.0010	mg/L							
Methyl tert-Butyl Ether	ND	0.0010	mg/L							
Methylene Chloride	ND	0.0020	mg/L							
Naphthalene	ND	0.0010	mg/L							
n-Butylbenzene	ND	0.0010	mg/L							
n-Propylbenzene	ND	0.0010	mg/L							
sec-Butylbenzene	ND	0.0010	mg/L							
Styrene	ND	0.0010	mg/L							
tert-Butylbenzene	ND	0.0010	mg/L							
Tertiary-amyl methyl ether	ND	0.0010	mg/L							
Tetrachloroethene	ND	0.0010	mg/L							
Tetrahydrofuran	ND	0.0050	mg/L							
Toluene	ND	0.0010	mg/L							
trans-1,2-Dichloroethene	ND	0.0010	mg/L							
trans-1,3-Dichloropropene	ND	0.0004	mg/L							
Trichloroethene	ND	0.0010	mg/L							
Trichlorofluoromethane	ND	0.0010	mg/L							
Vinyl Acetate	ND	0.0050	mg/L							
Vinyl Chloride	ND	0.0010	mg/L							
Xylene O	ND	0.0010	mg/L							
Xylene P,M	ND	0.0020	mg/L							
Xylenes (Total)	ND	0.0020	mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0215		mg/L	0.02500		86	70-130			
Surrogate: 4-Bromofluorobenzene	0.0248		mg/L	0.02500		99	70-130			
Surrogate: Dibromofluoromethane	0.0240		mg/L	0.02500		96	70-130			
Surrogate: Toluene-d8	0.0262		mg/L	0.02500		105	70-130			

**LCS**



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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**8260B Volatile Organic Compounds**

**Batch CI71139 - 5030B**

1,1,1,2-Tetrachloroethane	9.53		ug/L	10.00		95	70-130			
1,1,1-Trichloroethane	10.1		ug/L	10.00		101	70-130			
1,1,2,2-Tetrachloroethane	11.0		ug/L	10.00		110	70-130			
1,1,2-Trichloroethane	10.0		ug/L	10.00		100	70-130			
1,1-Dichloroethane	10.2		ug/L	10.00		102	70-130			
1,1-Dichloroethene	12.0		ug/L	10.00		120	70-130			
1,1-Dichloropropene	11.0		ug/L	10.00		110	70-130			
1,2,3-Trichlorobenzene	10.2		ug/L	10.00		102	70-130			
1,2,3-Trichloropropane	10.8		ug/L	10.00		108	70-130			
1,2,4-Trichlorobenzene	10.1		ug/L	10.00		101	70-130			
1,2,4-Trimethylbenzene	11.2		ug/L	10.00		112	70-130			
1,2-Dibromo-3-Chloropropane	9.70		ug/L	10.00		97	70-130			
1,2-Dibromoethane	10.2		ug/L	10.00		102	70-130			
1,2-Dichlorobenzene	10.4		ug/L	10.00		104	70-130			
1,2-Dichloroethane	10.0		ug/L	10.00		100	70-130			
1,2-Dichloropropane	10.4		ug/L	10.00		104	70-130			
1,3,5-Trimethylbenzene	11.0		ug/L	10.00		110	70-130			
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130			
1,3-Dichloropropane	10.7		ug/L	10.00		107	70-130			
1,4-Dichlorobenzene	10.0		ug/L	10.00		100	70-130			
1,4-Dioxane - Screen	198		ug/L	200.0		99	0-332			
1-Chlorohexane	10.9		ug/L	10.00		109	70-130			
2,2-Dichloropropane	10.2		ug/L	10.00		102	70-130			
2-Butanone	54.5		ug/L	50.00		109	70-130			
2-Chlorotoluene	11.0		ug/L	10.00		110	70-130			
2-Hexanone	55.4		ug/L	50.00		111	70-130			
4-Chlorotoluene	11.0		ug/L	10.00		110	70-130			
4-Isopropyltoluene	10.6		ug/L	10.00		106	70-130			
4-Methyl-2-Pentanone	55.0		ug/L	50.00		110	70-130			
Acetone	50.5		ug/L	50.00		101	70-130			
Benzene	10.6		ug/L	10.00		106	70-130			
Bromobenzene	10.6		ug/L	10.00		106	70-130			
Bromochloromethane	10.0		ug/L	10.00		100	70-130			
Bromodichloromethane	9.36		ug/L	10.00		94	70-130			
Bromoform	10.0		ug/L	10.00		100	70-130			
Bromomethane	10.4		ug/L	10.00		104	70-130			
Carbon Disulfide	9.82		ug/L	10.00		98	70-130			
Carbon Tetrachloride	9.04		ug/L	10.00		90	70-130			
Chlorobenzene	10.2		ug/L	10.00		102	70-130			
Chloroethane	10.3		ug/L	10.00		103	70-130			
Chloroform	10.2		ug/L	10.00		102	70-130			
Chloromethane	10.6		ug/L	10.00		106	70-130			
cis-1,2-Dichloroethene	10.3		ug/L	10.00		103	70-130			
cis-1,3-Dichloropropene	9.94		ug/L	10.00		99	70-130			
Dibromochloromethane	8.59		ug/L	10.00		86	70-130			



CERTIFICATE OF ANALYSIS

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

**Batch CI71139 - 50308**

Dibromomethane	9.80		ug/L	10.00		98	70-130			
Dichlorodifluoromethane	9.13		ug/L	10.00		91	70-130			
Diethyl Ether	10.7		ug/L	10.00		107	70-130			
Di-isopropyl ether	11.4		ug/L	10.00		114	70-130			
Ethyl tertiary-butyl ether	10.3		ug/L	10.00		103	70-130			
Ethylbenzene	10.7		ug/L	10.00		107	70-130			
Hexachlorobutadiene	9.33		ug/L	10.00		93	70-130			
Hexachloroethane	11.5		ug/L	10.00		115	70-130			
Isopropylbenzene	10.6		ug/L	10.00		106	70-130			
Methyl tert-Butyl Ether	9.60		ug/L	10.00		96	70-130			
Methylene Chloride	10.5		ug/L	10.00		105	70-130			
Naphthalene	10.7		ug/L	10.00		107	70-130			
n-Butylbenzene	10.9		ug/L	10.00		109	70-130			
n-Propylbenzene	11.3		ug/L	10.00		113	70-130			
sec-Butylbenzene	11.1		ug/L	10.00		111	70-130			
Styrene	10.1		ug/L	10.00		101	70-130			
tert-Butylbenzene	11.0		ug/L	10.00		110	70-130			
Tertiary-amyl methyl ether	10.1		ug/L	10.00		101	70-130			
Tetrachloroethene	9.70		ug/L	10.00		97	70-130			
Tetrahydrofuran	9.97		ug/L	10.00		100	70-130			
Toluene	11.0		ug/L	10.00		110	70-130			
trans-1,2-Dichloroethene	10.5		ug/L	10.00		105	70-130			
trans-1,3-Dichloropropene	8.55		ug/L	10.00		86	70-130			
Trichloroethene	10.0		ug/L	10.00		100	70-130			
Trichlorofluoromethane	9.95		ug/L	10.00		100	70-130			
Vinyl Acetate	10.4		ug/L	10.00		104	70-130			
Vinyl Chloride	10.9		ug/L	10.00		109	70-130			
Xylene O	10.6		ug/L	10.00		106	70-130			
Xylene P,M	21.8		ug/L	20.00		109	70-130			
Xylenes (Total)	32.3		mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0242		mg/L	0.02500		97	70-130			
Surrogate: 4-Bromofluorobenzene	0.0246		mg/L	0.02500		98	70-130			
Surrogate: Dibromofluoromethane	0.0282		mg/L	0.02500		113	70-130			
Surrogate: Toluene-d8	0.0266		mg/L	0.02500		106	70-130			

**LCS Dup**

1,1,1,2-Tetrachloroethane	9.38		ug/L	10.00		94	70-130	2	25	
1,1,1-Trichloroethane	10.3		ug/L	10.00		103	70-130	2	25	
1,1,2,2-Tetrachloroethane	11.1		ug/L	10.00		111	70-130	0.3	25	
1,1,2-Trichloroethane	10.2		ug/L	10.00		102	70-130	2	25	
1,1-Dichloroethane	10.4		ug/L	10.00		104	70-130	2	25	
1,1-Dichloroethene	12.4		ug/L	10.00		124	70-130	3	25	
1,1-Dichloropropene	11.1		ug/L	10.00		111	70-130	1	25	
1,2,3-Trichlorobenzene	9.73		ug/L	10.00		97	70-130	4	25	
1,2,3-Trichloropropane	11.0		ug/L	10.00		110	70-130	1	25	
1,2,4-Trichlorobenzene	9.81		ug/L	10.00		98	70-130	3	25	



CERTIFICATE OF ANALYSIS

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

**Batch CI71139 - 5030B**

1,2,4-Trimethylbenzene	11.3		ug/L	10.00		113	70-130	1	25	
1,2-Dibromo-3-Chloropropane	9.42		ug/L	10.00		94	70-130	3	25	
1,2-Dibromoethane	10.3		ug/L	10.00		103	70-130	0.5	25	
1,2-Dichlorobenzene	10.3		ug/L	10.00		103	70-130	0.6	25	
1,2-Dichloroethane	10.2		ug/L	10.00		102	70-130	2	25	
1,2-Dichloropropane	10.5		ug/L	10.00		105	70-130	0.9	25	
1,3,5-Trimethylbenzene	11.3		ug/L	10.00		113	70-130	2	25	
1,3-Dichlorobenzene	10.3		ug/L	10.00		103	70-130	0.7	25	
1,3-Dichloropropane	10.8		ug/L	10.00		108	70-130	1	25	
1,4-Dichlorobenzene	9.88		ug/L	10.00		99	70-130	2	25	
1,4-Dioxane - Screen	194		ug/L	200.0		97	0-332	2	200	
1-Chlorohexane	11.0		ug/L	10.00		110	70-130	1	25	
2,2-Dichloropropane	10.2		ug/L	10.00		102	70-130	0.1	25	
2-Butanone	54.1		ug/L	50.00		108	70-130	0.9	25	
2-Chlorotoluene	11.2		ug/L	10.00		112	70-130	2	25	
2-Hexanone	55.2		ug/L	50.00		110	70-130	0.4	25	
4-Chlorotoluene	11.1		ug/L	10.00		111	70-130	0.9	25	
4-Isopropyltoluene	10.6		ug/L	10.00		106	70-130	0.2	25	
4-Methyl-2-Pentanone	54.4		ug/L	50.00		109	70-130	1	25	
Acetone	48.8		ug/L	50.00		98	70-130	3	25	
Benzene	11.0		ug/L	10.00		110	70-130	3	25	
Bromobenzene	10.7		ug/L	10.00		107	70-130	1	25	
Bromochloromethane	10.2		ug/L	10.00		102	70-130	1	25	
Bromodichloromethane	9.44		ug/L	10.00		94	70-130	0.9	25	
Bromoform	10.0		ug/L	10.00		100	70-130	0.1	25	
Bromomethane	10.4		ug/L	10.00		104	70-130	0	25	
Carbon Disulfide	10.2		ug/L	10.00		102	70-130	4	25	
Carbon Tetrachloride	9.10		ug/L	10.00		91	70-130	0.7	25	
Chlorobenzene	10.1		ug/L	10.00		101	70-130	0.4	25	
Chloroethane	8.99		ug/L	10.00		90	70-130	13	25	
Chloroform	10.2		ug/L	10.00		102	70-130	0.4	25	
Chloromethane	10.5		ug/L	10.00		105	70-130	1	25	
cis-1,2-Dichloroethene	10.6		ug/L	10.00		106	70-130	3	25	
cis-1,3-Dichloropropene	9.97		ug/L	10.00		100	70-130	0.3	25	
Dibromochloromethane	8.69		ug/L	10.00		87	70-130	1	25	
Dibromomethane	9.76		ug/L	10.00		98	70-130	0.4	25	
Dichlorodifluoromethane	9.04		ug/L	10.00		90	70-130	1	25	
Diethyl Ether	10.6		ug/L	10.00		106	70-130	0.7	25	
Di-isopropyl ether	11.4		ug/L	10.00		114	70-130	0	25	
Ethyl tertiary-butyl ether	10.5		ug/L	10.00		105	70-130	1	25	
Ethylbenzene	10.7		ug/L	10.00		107	70-130	0.2	25	
Hexachlorobutadiene	9.22		ug/L	10.00		92	70-130	1	25	
Hexachloroethane	11.5		ug/L	10.00		115	70-130	0.4	25	
Isopropylbenzene	10.8		ug/L	10.00		108	70-130	3	25	
Methyl tert-Butyl Ether	9.78		ug/L	10.00		98	70-130	2	25	



CERTIFICATE OF ANALYSIS

Client Name: ATC Group Services  
 Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Quality Control Data**

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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8260B Volatile Organic Compounds

**Batch CI71139 - 5030B**

Methylene Chloride	10.8		ug/L	10.00		108	70-130	3	25	
Naphthalene	10.5		ug/L	10.00		105	70-130	3	25	
n-Butylbenzene	11.0		ug/L	10.00		110	70-130	0.7	25	
n-Propylbenzene	11.6		ug/L	10.00		116	70-130	2	25	
sec-Butylbenzene	11.2		ug/L	10.00		112	70-130	0.8	25	
Styrene	9.83		ug/L	10.00		98	70-130	3	25	
tert-Butylbenzene	11.2		ug/L	10.00		112	70-130	1	25	
Tertiary-amyl methyl ether	10.2		ug/L	10.00		102	70-130	1	25	
Tetrachloroethene	9.80		ug/L	10.00		98	70-130	1	25	
Tetrahydrofuran	10.1		ug/L	10.00		101	70-130	1	25	
Toluene	11.0		ug/L	10.00		110	70-130	0.5	25	
trans-1,2-Dichloroethene	10.8		ug/L	10.00		108	70-130	3	25	
trans-1,3-Dichloropropene	8.61		ug/L	10.00		86	70-130	0.7	25	
Trichloroethene	9.98		ug/L	10.00		100	70-130	0.5	25	
Trichlorofluoromethane	10.2		ug/L	10.00		102	70-130	3	25	
Vinyl Acetate	10.4		ug/L	10.00		104	70-130	0.5	25	
Vinyl Chloride	10.9		ug/L	10.00		109	70-130	0.09	25	
Xylene O	10.7		ug/L	10.00		107	70-130	1	25	
Xylene P,M	21.4		ug/L	20.00		107	70-130	2	25	
Xylenes (Total)	32.1		mg/L							
Surrogate: 1,2-Dichloroethane-d4	0.0247		mg/L	0.02500		99	70-130			
Surrogate: 4-Bromofluorobenzene	0.0245		mg/L	0.02500		98	70-130			
Surrogate: Dibromofluoromethane	0.0289		mg/L	0.02500		116	70-130			
Surrogate: Toluene-d8	0.0267		mg/L	0.02500		107	70-130			



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**Notes and Definitions**

- U Analyte included in the analysis, but not detected
- D Diluted.
- ND Analyte NOT DETECTED at or above the MRL (LOQ), LOD for DoD Reports, MDL for J-Flagged Analytes
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference
- MDL Method Detection Limit
- MRL Method Reporting Limit
- LOD Limit of Detection
- LOQ Limit of Quantitation
- DL Detection Limit
- I/V Initial Volume
- F/V Final Volume
- § Subcontracted analysis; see attached report
- 1 Range result excludes concentrations of surrogates and/or internal standards eluting in that range.
- 2 Range result excludes concentrations of target analytes eluting in that range.
- 3 Range result excludes the concentration of the C9-C10 aromatic range.
- Avg Results reported as a mathematical average.
- NR No Recovery
- [CALC] Calculated Analyte
- SUB Subcontracted analysis; see attached report
- RL Reporting Limit
- EDL Estimated Detection Limit



*CERTIFICATE OF ANALYSIS*

Client Name: ATC Group Services  
Client Project ID: Former Portsmouth Landfill

ESS Laboratory Work Order: 1709205

**ESS LABORATORY CERTIFICATIONS AND ACCREDITATIONS**

**ENVIRONMENTAL**

Rhode Island Potable and Non Potable Water: LAI00179

<http://www.health.ri.gov/find/labs/analytical/ESS.pdf>

Connecticut Potable and Non Potable Water, Solid and Hazardous Waste: PH-0750

[http://www.ct.gov/dph/lib/dph/environmental\\_health/environmental\\_laboratories/pdf/OutofStateCommercialLaboratories.pdf](http://www.ct.gov/dph/lib/dph/environmental_health/environmental_laboratories/pdf/OutofStateCommercialLaboratories.pdf)

Maine Potable and Non Potable Water, and Solid and Hazardous Waste: RI00002

<http://www.maine.gov/dhhs/meecd/environmental-health/dwp/partners/labCert.shtml>

Massachusetts Potable and Non Potable Water: M-RI002

<http://public.dep.state.ma.us/Labcert/Labcert.aspx>

New Hampshire (NELAP accredited) Potable and Non Potable Water, Solid and Hazardous Waste: 2424

<http://des.nh.gov/organization/divisions/water/dwgb/nhelap/index.htm>

New York (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: 11313

<http://www.wadsworth.org/labcert/elap/comm.html>

New Jersey (NELAP accredited) Non Potable Water, Solid and Hazardous Waste: RI006

[http://datamine2.state.nj.us/DEP\\_OPRA/OpraMain/pi\\_main?mode=pi\\_by\\_site&sort\\_order=PI\\_NAMEA&Select+a+Site:=58715](http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pi_main?mode=pi_by_site&sort_order=PI_NAMEA&Select+a+Site:=58715)

United States Department of Agriculture Soil Permit: P330-12-00139

Pennsylvania: 68-01752

<http://www.dep.pa.gov/Business/OtherPrograms/Labs/Pages/Laboratory-Accreditation-Program.aspx>

## ESS Laboratory Sample and Cooler Receipt Checklist

Client: ATC Group Services - KPB/HDM

ESS Project ID: 1709205

Shipped/Delivered Via: ESS Courier

Date Received: 9/11/2017

Project Due Date: 9/18/2017

Days for Project: 5 Day

- |  |  |
|--|--|
| <p>1. Air bill manifest present? <input type="checkbox"/> No<br/>Air No.: <u>NA</u></p> <p>2. Were custody seals present? <input type="checkbox"/> No</p> <p>3. Is radiation count &lt;100 CPM? <input type="checkbox"/> Yes</p> <p>4. Is a Cooler Present? <input type="checkbox"/> Yes<br/>Temp: <u>4.8</u> Iced with: <u>Ice</u></p> <p>5. Was COC signed and dated by client? <input type="checkbox"/> Yes</p> | <p>6. Does COC match bottles? <input type="checkbox"/> Yes</p> <p>7. Is COC complete and correct? <input type="checkbox"/> Yes</p> <p>8. Were samples received intact? <input type="checkbox"/> Yes</p> <p>9. Were labs informed about <u>short holds &amp; rushes</u>? Yes / No <input checked="" type="checkbox"/> NA</p> <p>10. Were any analyses received outside of hold time? Yes <input checked="" type="checkbox"/> No</p> |
|--|--|

- |   |  |
|---|--|
| <p>11. Any Subcontracting needed? Yes <input checked="" type="checkbox"/> / No <input type="checkbox"/><br/>ESS Sample IDs: _____<br/>Analysis: _____<br/>TAT: _____</p> <p>13. Are the samples properly preserved? Yes <input checked="" type="checkbox"/> / No <input type="checkbox"/><br/>a. If metals preserved upon receipt: Date: _____ Time: _____ By: _____<br/>b. Low Level VOA vials frozen: Date: _____ Time: _____ By: _____</p> | <p>12. Were VOAs received? Yes <input checked="" type="checkbox"/> / No <input type="checkbox"/><br/>a. Air bubbles in aqueous VOAs? Yes <input checked="" type="checkbox"/> / No <input type="checkbox"/><br/>b. Does methanol cover soil completely? Yes / No / NA</p> |
|---|--|

Sample Receiving Notes:

14. Was there a need to contact Project Manager? Yes  / No   
a. Was there a need to contact the client? Yes  / No   
Who was contacted? \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_ By: \_\_\_\_\_

Sample Number	Container ID	Proper Container	Air Bubbles Present	Sufficient Volume	Container Type	Preservative	Record pH (Cyanide and 608 Pesticides)
01	161296	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
01	161309	Yes	No	Yes	VOA Vial - HCl	HCl	
01	161310	Yes	No	Yes	VOA Vial - HCl	HCl	
01	161311	Yes	No	Yes	VOA Vial - HCl	HCl	
02	161295	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
02	161306	Yes	No	Yes	VOA Vial - HCl	HCl	
02	161307	Yes	No	Yes	VOA Vial - HCl	HCl	
02	161308	Yes	No	Yes	VOA Vial - HCl	HCl	
03	161294	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
03	161303	Yes	No	Yes	VOA Vial - HCl	HCl	
03	161304	Yes	No	Yes	VOA Vial - HCl	HCl	
03	161305	Yes	No	Yes	VOA Vial - HCl	HCl	
04	161293	Yes	NA	Yes	250 mL Poly - HNO3	HNO3	
04	161300	Yes	No	Yes	VOA Vial - HCl	HCl	
04	161301	Yes	No	Yes	VOA Vial - HCl	HCl	
04	161302	Yes	No	Yes	VOA Vial - HCl	HCl	
05	161297	Yes	No	Yes	VOA Vial - HCl	HCl	

2nd Review

Are barcode labels on correct containers? Yes  / No

Completed By:

Date & Time: 9/11/17 1223




# ESS Laboratory Sample and Cooler Receipt Checklist

Client: ATC Group Services - KPB/HDM

ESS Project ID: 1709205

Date Received: 9/11/2017

Reviewed By:  Date & Time: 9/11/17 1340

Delivered By:  9/11/17 1324

ESS Laboratory

Division of Thielsch Engineering, Inc.  
 185 Frances Avenue, Cranston RI 02910  
 Tel. (401) 461-7181 Fax (401) 461-4486  
 www.esslaboratory.com

CHAIN OF CUSTODY

ESS Lab # 1709205

Turn Time 5-Day Rush  
 Regulatory State GA GW objectives  
 Is this project for any of the following?:  
 OCT RCP  OMA MCP  ORGP

Reporting Limits GA GW objectives  
 Electronic  Limit Checker  Standard Excel  
 Deliverables  Other (Please Specify ->)

Company Name ATC  
 Contact Person Keith Sullivan  
 City Providence State RI  
 Project # 301.238 Project Name Former Portsmouth Landfill  
 Address 400 Reservoir Ave, Suite 2C  
 Zip Code 02907 PO #  
 Telephone Number 401-714-0306 FAX Number  
 Email Address Keith.Sullivan@ATCAssociates.com

Analysis  
 VOA, 8, 6, 0  
 Sb, As, Ba  
 Be, Cd, Cr  
 Co, Cu, Pb  
 Ni, Se, Ag  
 Tl, V, Zn

ESS Lab ID	Collection Date	Collection Time	Sample Type	Sample Matrix	Sample ID
1	9/8/17	11:05	G	GW	mw-1
2	↓	1:10	↓	↓	mw-2
3	↓	1:55	↓	↓	mw-3
4	↓	3:10	↓	↓	mw-4
5					Trip Blank w 9/11/17

Analysis	VOA	8	6	0	Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Ni	Se	Ag	Tl	V	Zn
1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
3	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
4	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
5																			

Container Type: AC-Air Cassette AG-Amber Glass B-BOD Bottle C-Cubitainer G - Glass O-Other P-Poly S-Sterile V-Vial  
 Container Volume: 1-100 mL 2-2.5 gal 3-250 mL 4-300 mL 5-500 mL 6-1L 7-VOA 8-2 oz 9-4 oz 10-8 oz 11-Other\*  
 Preservation Code: 1-Non Preserved 2-HCl 3-H2SO4 4-HNO3 5-NaOH 6-Methanol 7-Na2S2O3 8-ZnAce, NaOH 9-NH4Cl 10-DI H2O 11-Other\*  
 Number of Containers per Sample: 3 1 1 1 1 1 1

Laboratory Use Only  
 Cooler Present:   
 Seals Intact:   
 Cooler Temperature: Ice bath 4.8°C 9/11/17 11:38

Sampled by :  
 Comments: Please specify "Other" preservative and containers types in this space  
 GA Groundwater Limits

Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)
Keith Sullivan 9/8/17 4:14	[Signature] 9/11/17 11:26	[Signature] 9/11/17 11:38	[Signature] 9/11/17 11:56
Relinquished by: (Signature, Date & Time)	Received By: (Signature, Date & Time)	Relinquished By: (Signature, Date & Time)	Received By: (Signature, Date & Time)

1706086

1709205

CONSTITUENTS FOR DETECTION MONITORING (1)

Common name (2)	CAS RN (3)
<u>Inorganic Constituents:</u>	
(1) Antimony.....	(Total)
(2) Arsenic.....	(Total)
(3) Barium.....	(Total)
(4) Beryllium.....	(Total)
(5) Cadmium.....	(Total)
(6) Chromium.....	(Total)
(7) Cobalt.....	(Total)
(8) Copper.....	(Total)
(9) Lead.....	(Total)
(10) Nickel.....	(Total)
(11) Selenium.....	(Total)
(12) Silver.....	(Total)
(13) Thallium.....	(Total)
(14) Vanadium.....	(Total)
(15) Zinc.....	(Total)

8260