

2016 Post-Closure Site Monitoring Report

Landfill and Resource Recovery (L&RR) Superfund Site North Smithfield, Rhode Island

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1. INTRODUCTION

This 2016 Post-Closure Site Monitoring (PCSM) Report documents Post-Closure Operation and Maintenance (O&M) activities conducted by the Performing Settling Defendants at the Landfill and Resource Recovery (L&RR) Superfund Site (the Site) located in North Smithfield, Rhode Island. A Site Plan is provided as Figure 1. This PCSM Report covers the reporting period from May 2015 through April 2016.

This Report has been prepared in accordance with the requirements of the Consent Decree and Remedial Design/Remedial Action (RD/RA) Statement of Work (SOW) as indicated in the table below.

	ost-Closure Site Monitoring Report Requirements, Specified in the Consent Decree and RD/RA SOW	Report Section Reference
a.	Map of the Site showing sample locations.	Figure 1, Site Plan
b.	Tabular representation of laboratory results by each media including comparison with any standard levels, with exceedances of maximum contaminant levels (MCLs) and other Performance Standards highlighted.	Section 3. Annual Groundwater and Surface Water Monitoring; Tables 3 and 5
C.	Laboratory results on a computer disc in a spreadsheet file such as Excel.	Section 3. Annual Groundwater and Surface Water Monitoring; Tables 3 and 5
d.	Data validation packages.	Section 3.5 Data Validation; Appendices B and C
e.	Interpretation of maintenance activities completed.	Section 2. Landfill Inspection and Maintenance
f.	Inspection reports.	Section 2. Landfill Inspection and Maintenance; Appendix A
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h.	Explanation of problems encountered in the field and measures taken to mitigate the problems.	Section 5. Problems Encountered
i.	Activities planned for the next reporting period.	Section 6. Activities Planned for Next Reporting



2. LANDFILL INSPECTION AND MAINTENANCE ACTIVITIES

Site visits were conducted to identify corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, flare stack operation, and gas collection system. Site visits were conducted on a monthly basis through August 2015 prior to transitioning to a quarterly frequency after September 2015. This modification was based on a Request to Modify Gas Monitoring and Well Field Tuning Frequency dated May 26, 2015 and U.S. Environmental Protection Agency (USEPA) approval thereafter on September 10, 2015.

These visits also included a complete round of monitoring for gas at wells designated as W-1 through W-18 and perimeter probes designated as GP-1 through GP-6, GP-8, GP-1R, and GP-4R on Figure 1. Monitoring at perimeter probes GP-1 and GP-4 ceased in November 2015. The compliance points for these locations were replaced with GP-1R and GP-4R. Compliance monitoring results were summarized in monthly monitoring reports and inspection logs submitted to the USEPA and Rhode Island Department of Environmental Management (RIDEM). Copies of the monthly monitoring reports for May 2015 through August 2015 and quarterly monitoring reports for November 2015 through March 2016 are presented in Appendix A. Please note that for the current reporting period, reports between August 2015 and March 2016 are being submitted concurrently with the PCSM report.

Highlights of the monthly/quarterly reports for May 2015 through April 2016 include the following:

 During flare operation, the flare inlet flow rate, temperature, and methane level have fluctuated in comparison to historic results. This variability is attributed to decreasing methane levels and overall diminished gas yield from the landfill. A summary of the flare inlet flow rate, temperature, and methane level data collected during this reporting period are summarized in the following table:

	Inlet Flow Rate (cfm)	Temperature (deg. F)	Methane Level (%)
Minimum	382	1,782	26.9
Maximum	461	1,812	41.1
Average	421	1,797	32.2

- The flare continues to operate using a timed on-off-on cycle throughout the reporting period with the following exceptions, including reason for flare shutdown and actions taken provided:
 - May 18 through June 2, 2015: issues with the flare detection sensor; repaired on June 2, 2015.
 - June 2, 2015 through February 2, 2016: flare operated continuously on a 4 days on, 3 days off cycle.
 - February 2 through February 24, 2016: power outage caused extended shutdown. On February 24, 2016 the flare was restarted.
 - February 24 through April 2, 2016: flare operated continuously on a 4 days on, 3 days off cycle.
- Bi-annual flare inspections were conducted on May 11, 2015 and December 7, 2015. During these
 visits, a representative from Woodard & Curran conducted an inspection of the flare, made necessary
 adjustments, and provided equipment parts.
- Perimeter compliance probes are monitored for methane, carbon dioxide, and oxygen levels during
 monthly and quarterly inspections. The monitoring network included perimeter probes GP-1 through
 GP-6, GP-8, GP-1R, and GP-4R until November 2015 when GP-1 and GP-4 ceased monitoring (refer
 to section 4.5). Methane levels less than 1.25% in each perimeter probe indicate compliance. These
 results are summarized in monthly monitoring reports submitted to USEPA and RIDEM (Appendix A).



- From May 2015 through March 2016, 8,930 gallons of condensate were pumped out by US Ecology (formerly Environmental Quality Company) and properly disposed at New Stream (MAC300005808) in Attleboro, Massachusetts and Environmental Compliance Corporation (MAD062179890) in Stoughton, Massachusetts. Manifest copies are attached to the monthly reports in Appendix A.
- Annual flare inlet testing was conducted on November 12, 2015, and sample results were compared to the results of flare inlet sampling from December 2009, February 2014, and December 2014. It is anticipated the 2016 flare inlet test will be conducted in fall 2016.

These activities are discussed in further detail in Section 4.



3. ANNUAL GROUNDWATER AND SURFACE WATER MONITORING

The 2016 Annual Groundwater and Surface Water Monitoring event occurred on April 5, 2016. Sampling was conducted by Geological Field Services, Inc. (GFS) of Salem, Massachusetts in accordance with the approved monitoring program for the Site as specified in the Post-Closure O&M Plan (*de maximis* Inc., September 1996) for the Site and the Sampling and Analysis Plan (SAP) submitted to the USEPA on March 7, 2014. Details regarding the water level measurements, groundwater sampling, and surface water sampling and a discussion of the analytical results are provided in the following sections. The sampling locations are depicted on Figure 1. The laboratory analytical report is included in Appendix B.

3.1 WATER LEVEL MEASUREMENTS

On April 5, 2016 prior to groundwater sampling activities, GFS performed a comprehensive round of water level measurements from 19 monitoring wells. Measurements were collected using an electronic interface probe measured to the nearest 0.01 foot from the top of the designated measuring point. Attempts were also made to measure the depth to the bottom of each monitoring well, however, in several wells the dedicated pump could not be removed preventing the interface probe from reaching the well bottom. The water level measurements, provided on Table 1, were used to establish groundwater flow direction at the Site. Figure 2 presents the groundwater elevation contours for the shallow overburden, deep overburden, and bedrock aquifers using the April 5, 2016 measurements.

3.2 GROUNDWATER SAMPLING

Groundwater samples were collected from seven monitoring wells identified as MW-201, MW-202, MW-102A, MW-103A, MW-104A, CW-5B, and CW-7B¹ as outlined in the Post-Closure O&M Plan groundwater monitoring program. The sampling locations are provided on Figure 1.

Groundwater samples were submitted for laboratory analysis of volatile organic compounds (VOCs), total and dissolved metals, and the following inorganic analyses: ammonia, chloride, biochemical oxygen demand, and chemical oxygen demand. During the 2016 event, samples were also submitted for low-level 1,4-dioxane analysis (using selective ion monitoring [SIM]) as described in the 2014 SAP. Table 2 presents a detailed list of field parameters and laboratory analyses and methods.

3.2.1 Sample Collection

The monitoring wells were purged and sampled by GFS using the *EPA Region 1 Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, Revision 3 (January 19, 2010). Prior to purging, the groundwater level in each monitoring well was measured to the nearest 0.01 foot using an electronic interface probe. The depth to water and historical well depth measurements were used to approximate the volume of standing water in each well.

Monitoring wells MW-201, MW-202, MW-102A, MW-103A, MW-104A, and CW-5B were purged using dedicated bladder sampling pumps and dedicated high-density polyethylene (HDPE) tubing. Monitoring well CW-7B was

¹ Since 2009, monitoring well CW-7B was sampled in place of CW-7A. According to the 2009 Annual Post-Closure Monitoring Report prepared by O&M, Inc., "A sample could not be collected from CW-7A due to failure of the dedicated sampling pump and the inability to remove the pump from the well. Therefore, per a recommendation from USEPA, a sample was collected from CW-7B."



purged and sampled using a Durham Geoslope bladder pump that was decontaminated prior to introduction to the well and following sample collection. Groundwater samples collected for dissolved metals were field filtered using a 0.45-micron in-line filter prior to preservation. Field measurements (temperature, specific conductivity, dissolved oxygen, pH, turbidity, and oxidation-reduction potential) were measured using a calibrated hand-held water quality meter (i.e., YSI-556 meter) as purging progressed. At the end of the sampling day, the equipment calibration drift was checked with the same standards used during the morning calibration. Groundwater samples were packed on ice and hand delivered to Alpha Analytical Laboratories (Alpha) on April 5, 2016 with a chain-of-custody.

The field data collected during purging was recorded on log sheets presented in Appendix C.

3.2.2 Groundwater Analytical Results

A summary of validated analytical data from the 2016 annual monitoring event are presented in Table 3, and discussed in further detail below. Analytical results from annual sampling events since 2006 are presented in Appendix D. Select analytes have been incorporated into a series of trend graphs for monitoring wells MW-104A, MW-102A, and CW-5B, corresponding to the period from 2009-2016. These graphs, provided in Appendix E, demonstrate improved or stable groundwater quality for select analytes over time.

The list of VOCs detected in groundwater remains comparable to those encountered during previous years of monitoring, however the magnitude of select analytical detections has reduced significantly at select locations. Improving groundwater quality, particularly in the deeper aquifer zone, verifies on-going attenuation mechanisms following steady-state conditions referenced in the Post-Closure O&M Plan (*de maximis*, Inc., 1996). Concentrations of VOCs were detected as follows: 1,4-dioxane (four wells); t-butyl alcohol, and tetrahydrofuran (three wells); 1,4-dichlorobenzene, benzene, chlorobenzene, dichlorodifluoromethane, ethyl ether, tetrachloroethene, and naphthalene (two wells); 1,2-dichlorobenzene, 1,1-dichloroethane, cis-1,2-dichloroethene, trichloroethene, vinyl chloride, chloroethane, isopropylbenzene, and trans-1,2-dichloroethene (one well). In addition, total metals were detected in each of the seven monitoring wells and dissolved fractions of metals were detected at six locations.

These results were also compared to applicable MCLs. In general, concentrations of select analytes are below MCLs with the following exceptions:

- Vinyl chloride was reported at a concentration of 5.2 micrograms per liter (μg/L) in monitoring well MW-102A (duplicate result 5.3 μg/L) exceeding the MCL of 2 μg/L. Concentrations of vinyl chloride in this monitoring well have exceeded the MCL since May 2006 with concentrations ranging from 4.56 to 23 μg/L. Concentrations of vinyl chloride were reported at 10.2 μg/L or less in this monitoring well since May 2010 and continue to decline in comparison with pre-2006 levels.
- Total and dissolved arsenic were reported at concentrations exceeding the MCL of 10 μg/L at MW-102A and MW-104A. For MW-102A, the concentration of dissolved arsenic was 14.7 μg/L. These concentrations have remained consistent since May 2006 ranging from 9.0 to 14 μg/L (total) and 9.8 to 16 μg/L (dissolved). MW-104A contained concentrations of total and dissolved arsenic of 88 μg/L and 68.1 μg/L, respectively. While the concentration of dissolved arsenic in MW-104A has declined since 2015, the concentration of total arsenic, as well as total fractions of other metals (discussed below), has remained elevated in 2016. Elevated concentrations of total metals may be attributed to the turbid condition of the groundwater at the time of sampling (526 Nephelometric Turbidity Units [NTUs]; Appendix C). It should be noted, however, that samples collected from surface water locations SW-10 and SW-16, located downgradient of MW-104A, also contained detectable concentrations of arsenic (refer to Section 3.3). This could be indicative of the migration of subsurface arsenic which is supported by the reducing geochemical conditions (refer to field parameters reported in Appendix C). Previously, concentrations of arsenic in monitoring well MW-104A had declined since May 2006 ranging from 22 to 140 μg/L (total) and <18 to 100 μg/L (dissolved).



A comparison of the reported concentrations of total versus dissolved metals (including arsenic, cadmium, lead, and manganese) was also conducted. Similar to historic sampling events, concentrations of dissolved metals are consistent with concentrations of total metals throughout the Site with the exception of concentrations of total metals in monitoring well MW-104A that are higher than dissolved concentrations, discussed above.

3.3 SURFACE WATER SAMPLING

Surface water samples were collected by GFS on April 5, 2016 from six locations identified as SW-5, SW-8, SW-10, SW-16, LCH-3, and LCH-5. The sampling locations are shown on Figure 1. Similar to the groundwater monitoring, samples from each surface water location were also submitted for laboratory analysis of low-level 1,4-dioxane in addition to routine annual monitoring analyses of VOCs, total and dissolved arsenic, and chloride. Table 2 outlines a list of the laboratory analyses, including analytical method, and field parameters tested at each sample location.

3.3.1 Sample Collection

Surface water samples were collected as close as possible to the location as shown on Figure 1 using a peristaltic pump with dedicated polyethylene tubing for each sample location. Field parameters (temperature, specific conductivity, dissolved oxygen, pH, and turbidity) were measured at each sample location. Surface water samples collected for dissolved metals analysis were field filtered through a 0.45-micron filter prior to preservation. Samples were packed on ice and delivered to Alpha on April 5, 2016 with a chain-of-custody. Field parameters measured were recorded on field sheets provided in Appendix C.

3.3.2 Surface Water Analytical Results

A summary of the surface water analytical data from the 2016 annual monitoring event is presented in Table 4 and discussed in further detail below. Consistent with historic sampling results, concentrations of VOCs were detected as follows: 1,4-dioxane (five locations); t-butyl alcohol (four locations); ethyl ether, 1,4-dichlorobenzene, and tetrahydrofuran (two locations); and benzene, chlorobenzene, chloroethane, and isopropylbenzene (one location). In addition, chloride was detected at six sampling locations and arsenic was detected at three locations (dissolved) and two locations (total).

The 2016 surface water analytical results were compared to the Freshwater Acute or Chronic Aquatic Life Criteria and the Human Health Criteria for Consumption of Aquatic Organisms in general accordance with the RIDEM Ambient Water Quality Criteria and Guidelines included in the Water Quality Regulations July 2006, amended December 2010. Concentrations of metals or VOCs detected in surface water were below these criteria, with the following exceptions:

- Concentrations of dissolved arsenic exceeded the Human Health Criteria for Consumption of Aquatic Organisms standard of 1.4 μg/L at surface water locations SW-16 (3.2J μg/L), SW-10 (3.9J μg/L) and SW-8 (3.1J μg/L).
- Concentrations of total arsenic exceeded the Human Health Criteria for Consumption of Aquatic Organisms standard of 1.4 μg/L at surface water locations SW-16 (3.0J μg/L) and SW-8 (159 μg/L).

A comparison of the reported concentrations of total versus dissolved arsenic was also conducted. Similar to historic sampling events, concentrations of total metals are generally greater than, or equivalent to, concentrations of dissolved metals throughout surface water.

No other constituents were reported at concentrations exceeding the RIDEM water quality criteria in surface water during the 2016 sampling event.



3.4 QUALITY CONTROL SAMPLES

The following quality control samples were collected as part of the groundwater and surface water monitoring activities:

- A matrix spike and matrix spike duplicate (MS/MSD) were collected from monitoring well CW-5B.
- A duplicate sample was collected from monitoring well MW-102A.
- An equipment blank was collected from all non-dedicated sampling equipment and submitted.
- A trip blank accompanied sample containers during shipment and were submitted for analysis of VOCs and 1,4-dioxane.

3.5 DATA VALIDATION

Analytical data collected during the 2016 monitoring event were validated by Data Check as outlined in the March 2014 SAP. Data Check performed a Tier I Plus validation in accordance with the USEPA New England Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (USEPA, 2013). The validation included a review of all laboratory and field quality control samples for a check of: sample custody; sample preservation; analytical holding times; surrogate recoveries; detected results for trip blank samples; calculated relative percent differences (comparing primary and duplicate samples); MS/MSD results, and laboratory control sample results.

Based on the outcome of the validation, data qualifiers were applied to reported analyte concentrations to indicate uncertainty or interference. These qualifiers will be retained on future data tabular summaries for use in project decisions. In general, criteria for data completeness were met for the laboratory data packages associated with the 2016 monitoring event. Exceptions are described in the validation reports included in Appendix B.



4. ADDITIONAL ACTIVITIES FOR THIS PERIOD

This section discusses any additional activities conducted at the Site between May 2015 and April 2016.

4.1 PART-TIME FLARE OPERATION

To optimize flare operation and sustain active gas removal and thermal destruction, it was recommended that the gas collection and treatment system be operated at a timed "on-off-on" cycle. Subsequently, the flare was reprogrammed to operate with a 4-days-on, 3-days-off schedule beginning on January 15, 2015. To date, the system has been successful at achieving regulatory compliance in the soil gas compliance probes while operating in a part-time mode of operation. Based on the continued success of system operation, a request was sent to the USEPA on May 26, 2015 to reduce the frequency of gas probe monitoring and well field tuning to quarterly intervals (March, June, September and December). Quarterly intervals of the gas probe monitoring and well field tuning commenced in November 2015.

4.2 GAS PROBE WELLS

On August 2, 2013, gas probes GP-1R and GP-4R were installed to replace gas probes GP-1 and GP-4, respectively. Approval of replacement probe usage with GP-1R and GP-4R was approved by USEPA on January 16, 2014. On May 26, 2015, a Request to Modify Gas Monitoring and Well Field Tuning Frequency was submitted to USEPA proposing a reduction in the frequency of the gas well adjustments and soil gas probe monitoring to quarterly intervals. Beginning in November 2015 the compliance points for GP-1 and GP-4 have been replaced with GP-1R and GP-4R and the frequency of the gas well adjustments and soil gas probe monitoring has been changed to quarterly intervals.

4.3 ANNUAL FLARE INLET GAS SAMPLING

On November 12, 2015, a sample was collected of the landfill gas from the inlet to the combustion flare. This sample was collected using a Summa canister over a 4-hour period and submitted for laboratory analysis of VOCs via method TO-15. Sample results were compared to the results of the flare inlet sampling in December 2009, February 2014, and December 2014. These results are presented in Table 5. The laboratory report for samples collected in November 2015 are included in Appendix F.

The 11 Contaminants of Concern (COC) for air appearing in the 1988 L&RR Landfill Record of Decision Summary, Table VI-1, are emphasized in the table by use of bold font. Five of the 11 COCs were not detected in samples. The remaining six COCs continue to appear at detectable concentrations. The next sample to be collected will occur in the fall of 2016.

4.4 RESIDENTIAL WELL SAMPLING

Samples were collected from eight residential drinking water wells located along Pound Hill Road on June 7, 2016 as part of on-going monitoring of drinking water quality downgradient of the landfill. Samples were previously collected in April 2015. Samples collected in June 2016 were included as part of the Remedial Investigation/Feasibility Study (RI/FS) for Operable Unit 2 (OU 2). Samples were collected in accordance with the Quality Assurance Project Plan included with the Field Sampling Plan as part the Interim Final RI/FS Work Plan (dated May 23, 2016) for analysis of VOCs and 1.4-dioxane.

The analytical results indicated that no concentrations of Site-related VOCs or 1,4-dioxane detected above the laboratory's minimum reporting limit. A summary of the results is provided in Table 6. All sample results have been provided to USEPA for distribution to the property owners.



5. PROBLEMS ENCOUNTERED

5.1 GROUNDWATER AND SURFACE WATER MONITORING

No problems were encountered in the field during the groundwater and surface water sampling event for 2016.

5.2 FLARE PERFORMANCE

System and operational maintenance and improvements continued during this reporting period (May 2015 through April 2016) to support flare performance. No problems were encountered that resulted in performance related flare shutdowns during the reporting period.



6. ACTIVITIES PLANNED FOR NEXT REPORTING PERIOD

Activities planned for the next reporting period (May 2016 through April 2017) include the following:

Activity	Schedule
Landfill & Flare Inspection	Quarterly
Methane Migration Monitoring	Quarterly
Bi-Annual Flare Inspection	Fall 2016 and Spring 2017
Annual Groundwater and Surface Water Monitoring	Spring 2017
Routine Operational Practices	Ongoing
Flare Inlet Sampling	Annually



TABLES

Table 1:

Groundwater Measurement and Elevation Summary

L&RR Superfund Site, North Smithfield, Rhode Island

		Hydro-	Screene	d Interval		Measured Well	4/	5/2016
Well Location	Geologic Unit ⁽¹⁾	geologic Unit ⁽²⁾		ГОС)	MP Elevation (ft amsl)	Depth (ftb TOC)	Water Level (ftb TOC)	Water Elevation
		Unit '	Тор	Bottom		(110 100)	(ILD TOC)	(ft amsl)
MW -101	BR	FR BR	74.2	79.5	329.07	83.4	77.60	251.47
MW - 102A	UN	IC	62.7	73.3	258.03	NM	10.81	247.22
MW - 102B	UN	K	28.9	39.4	253.74	41.07	8.56	245.18
MW - 103A	BR	FR BR	39.2	55.1	268.48	NM	14.79	253.69
MW - 103B	UN	K	12.0	21.8	268.57	29.26	14.75	253.82
MW - 104A	UN	IC	43.5	54.0	263.54	54.02	17.68	245.86
MW - 104B	UN	K	14.5	24.0	263.77	25.56	12.47	251.30
CW - 5A	BR	FR BR	125.0	135.0	304.31	136.68	57.41	246.90
CW - 5B	UN	IC	92.0	102.0	303.92	NM	NM	NM
CW - 5C	UN	K	48.5	68.5	303.98	68.52	56.91	247.07
CW - 6A	BR	FR BR	82.0	92.0	264.06	98.13	18.78	245.28
CW - 6B	UN	IC	51.0	61.0	261.74	NM	18.99	242.75
CW - 6C	UN	K	13.0	33.0	263.98	NM	NM	NM
CW - 7A	UN/BR	IC/FR BR	37.0	47.0	255.59	48.22	8.75	246.84
CW - 7B	UN	IC	27.0	37.0	255.50	46.39	8.48	247.02
CW - 7C	UN	K	7.0	27.0	255.05	NM	8.05	247.00
MW-201	UN/BR	IC	69.0	89.0	320.25	90.68	68.71	251.54
MW-202	UN/BR	IC	21.0	38.6	253.26	38.32	10.81	242.45

Notes:

Abbreviations:

NM - not measured

ft amsl - feet above mean sea level

ftb toc - feet below top of casing

MP - measuring point

(1) BR - Bedrock

UN - Unconsolidated

(2) FR BD - Fractured Bedrock

K - Kame

IC - Ice Contact

W - Wetland



Table 2: Summary of Post-Closure Monitoring Analytical Parameters and Methods

April 2016 L&RR Superfund Site – North Smithfield, RI

Sampling Medium	Parameter	Analytical Method
Groundwater	VOCs	8260C
	1,4-Dioxane	8270 SIM
	Arsenic (Total)	6010C
	Arsenic (Dissolved)	6010C
	Cadmium (Total)	6010C
	Cadmium (Dissolved)	6010C
	Lead (Total)	6010C
	Lead (Dissolved)	6010C
	Iron	6010C
	Manganese (Total)	6010C
	Manganese (Dissolved)	6010C
	Chloride	300.0
	Ammonia	350.1
	COD	410.4
	BOD	SM 5210B
	EDB	504.1
	DBCP	504.1
Surface Water	VOCs	8260C
	1,4-Dioxane	8270 SIM
	Arsenic (Total)	6010C
	Arsenic (Dissolved)	6010C
	Chloride	300.0

Sample ID	1		I	CW-5B	CW-7B	MW-102A	DUP-1 (MW-102A)	MW-103A	MW-104A	MW-201	MW-202
	CAS Number	MCLs	Units		4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016
General Chemistry	107101111111111111111111111111111111111		<u> </u>	1/0/2010	1,0,2010	17072010	17072010	17072010	1/0/2010	1/0/2010	1/0/2010
Ammonia	7664-41-7	NE	mg/L	0.066J	0.033J	0.515	0.471	0.031J	11	<0.075	<0.075
Chloride	16887-00-6	250	mg/L	1.86	2.5	1.91	1.75	3.53	57.9	2.47	85.5
Biochemical Oxygen Demand	COD	NE NE	mg/L mg/L	<2 <20	<2 8.1J	8.5 22	9.4 20	<2 <20	37 56	<2 5.7J	<2 10J
Chemical Oxygen Demand Total Metals	СОВ	IN⊏	IIIg/L	\ 20	0. IJ	22	20	\ 20	30	5.75	103
Arsenic	7440-38-2	10	ug/L	<5	<5	8	9	<5	88	<5	<5
Cadmium	7440-43-9	5.0	ug/L	<5	<5	<5	<5	<5	<5	<5	1J
Iron	7439-89-6	NE	ug/L	44J	4100	25000	27000	33J	19000	29J	54.1
Lead	7439-92-1	15	ug/L	3J	<10	<10	<10	2.6J	<10	<10	<10
Manganese Dissolved Metals	7439-96-5	NE	ug/L	3320	1830	7770	8430	42.5	853	2.1J	66.5
Arsenic	7440-38-2	10	ug/L	<5	<5	14.7 J+	16.4 J+	3.5 J+	68.1 J+	<5	<5
Cadmium	7440-43-9	5.0	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
Lead	7439-92-1	15	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
Manganese	7439-96-5	NE	ug/L	3140 J+	1380 J+	7840 J+	8010 J+	48 J+	768 J+	<10	66.1 J+
Volatile Organic Compounds 1.1.1.2-Tetrachloroethane	630-20-6	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1.1.1-Trichloroethane	71-55-6	200	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloro-1,2,2-trifluoroe		NE	ug/L	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	79-00-5	5.0	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
1,1-Dichloroethane 1,1-Dichloroethene	75-34-3 75-35-4	NE 7.0	ug/L	<0.75 <0.5	<0.75 <0.5	9.8 <0.5	10	<0.75 <0.5	<0.75 <0.5	<0.75 <0.5	<0.75 <0.5
1,1-Dichloroethene 1,1-Dichloropropene	75-35-4 563-58-6	7.0 NE	ug/L ug/L	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
1,2,3-Trichlorobenzene	87-61-6	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	96-18-4	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	120-82-1	70	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane 1,2-Dibromoethane	96-12-8 106-93-4	0.2	ug/L ug/L	<0.021 <0.021	<0.021 <0.021	<0.02 <0.02	<0.021 <0.021	<0.021 <0.021	<0.021 <0.021	<0.02 <0.02	<0.02 <0.02
1,2-Dichlorobenzene	95-50-1	600	ug/L ug/L	<1	<1	<1	<1	<1	0.18J	<1	<1
1,2-Dichloroethane	107-06-2	5.0	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene, Total	540-59-0	NE	ug/L	<0.5	<0.5	39J	39J	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	78-87-5	5.0	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	108-70-3	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene 1,3-Dichlorobenzene	108-67-8 541-73-1	NE NE	ug/L ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
1,3-Dichloropropane	142-28-9	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichloropropene, Total	542-75-6	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	106-46-7	75	ug/L	<1	<1	1.6	1.6	<1	1.7	<1	<1
1,4-Dioxane	123-91-1	NE	ug/L	<0.144	4.23	0.375	0.386	1.96	102	<0.144	<0.142
2,2-Dichloropropane	594-20-7 78-93-3	NE NE	ug/L	<1 <5	<1 <5	<1 <5	<1 <5	<1 <5	<1 <5	<1 <5	<1 <5
2-Butanone (MEK) 2-Chlorotoluene	95-49-8	NE	ug/L ug/L	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	591-78-6	NE	ug/L	<5	<5	<5	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	99-87-6	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methyl-2-pentanone (MIBK)	108-10-1	NE	ug/L	<5	<5	<5	<5	<5	<5 -5.11	<5	<5
Acetone Acrylonitrile	67-64-1 107-13-1	NE NE	ug/L ug/L	<5 U <5	<5 U <5	<5 U <5	<5 U <5	<5 U <5	<5 U <5	<5 U <5	<5 U <5
Benzene	71-43-2	5.0	ug/L	<0.5	<0.5	1.0	1.0	<0.5	0.6	<0.5	<0.5
Bromobenzene	108-86-1	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane	74-97-5	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	75-27-4	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform Bromomothana	75-25-2	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane Carbon disulfide	74-83-9 75-15-0	NE NE	ug/L ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
Carbon tetrachloride	56-23-5	5.0	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	108-90-7	100	ug/L	<0.5	<0.5	2.6	2.7	<0.5	0.65	<0.5	<0.5
Chloroethane	75-00-3	NE	ug/L	<1	<1	1.0	1.1	<1	<1	<1	<1
Chloroform	67-66-3	NE	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Chloromethane cis-1,2-Dichloroethene	74-87-3 156-59-2	NE 70	ug/L ug/L	<2 <0.5	<2 <0.5	<2 38	<2 39	<2 <0.5	<2 <0.5	<2 <0.5	<2 <0.5
cis-1,3-Dichloropropene	10061-01-5	NE	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane	75-71-8	NE	ug/L	2.6	<2	1.6J	1.8J	<2	<2	<2	<2
Ethyl ether	60-29-7	NE	ug/L	<1	<1	2.5	2.6	<1	0.71J	<1	<1
Ethylbenzene Heyschlorobutadione	100-41-4 87-68-3	700 NE	ug/L	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene Isopropyl ether	108-20-3	NE NE	ug/L ug/L	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
Isopropylbenzene	98-82-8	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	0.26J	<0.5	<0.5
m,p-Xylene	179601-23-1	10,000		<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether	1634-04-4	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	75-09-2	5.0	ug/L	<3	<3	<3	<3	<3	<3	<3	<3
Naphthalene n-Butylbenzene	91-20-3 104-51-8	100	ug/L	0.24J <0.5	<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5	5.4 <0.5	<1 <0.5	<1 <0.5
N-Propylbenzene	104-51-8	NE NE	ug/L ug/L	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5
o-Xylene	95-47-6	10,000	_	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene t-Butyl alcohol	135-98-8 75-65-0	NE NE	ug/L ug/L	<0.5 8.8J	<0.5 5.9J	<0.5 <10	<0.5 <10	<0.5 <10	<0.5 69	<0.5 <10	<0.5 <10

Table 3: 2016 Groundwater Analytical Results

L&RR Superfund Site, North Smithfield, Rhode Island

Sample ID				CW-5B	CW-7B	MW-102A	DUP-1 (MW-102A)	MW-103A	MW-104A	MW-201	MW-202
Sample Date	CAS Number	MCLs	Units	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016	4/5/2016
Tert-amyl methyl ether	994-05-8	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Tert-butyl ethyl ether	637-92-3	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	98-06-6	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	127-18-4	5.0	ug/L	1.9	<0.5	1.1	1.2	<0.5	<0.5	<0.5	<0.5
Tetrahydrofuran	109-99-9	NE	ug/L	<2	1.6J	1.3J	1.3J	<2	4.3	<2	<2
Toluene	108-88-3	1,000	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	< 0.75	<0.75	<0.75
trans-1,2-Dichloroethene	156-60-5	100	ug/L	<0.75	<0.75	0.5J	0.49J	<0.75	< 0.75	<0.75	<0.75
trans-1,3-Dichloropropene	10061-02-6	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,4-Dichloro-2-butene	110-57-6	NE	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Trichloroethene	79-01-6	5.0	ug/L	<0.5	<0.5	2.1	2.1	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	75-69-4	NE	ug/L	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	75-01-4	2.0	ug/L	<0.2	<0.2	5.2	5.3	<0.2	<0.2	<0.2	<0.2
Xylenes, Total	1330-20-7	10,000	ug/L	<1	<1	<1	<1	<1	<1	<1	<1

Notes:

 μ g/L = micrograms per liter

mg/L = miligrams per liter

BOLD results indicate those detected above the laboratory reporting limit

 $\ensuremath{\mathbf{SHADED}}$ results indicate those in exceedance of the MCL for that constituent

MCLs = Maximum Contaminant Levels as specified by the USEPA

NE = MCL has not been established for the specific analyte

Data validated in accordance with EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013).

J+ = Result estimated, biased high

U = Qualified due to field blank contamination

Sample ID Sample Date norganics	CAS Number	Acute FALC	Chronic FALC	HHC CAO	RIDEM Water Quality Criteria	Units	LCH-3 4/5/2016	LCH-5 4/5/2016	SW-5 4/5/2016	SW-8 4/5/2016	SW-10 4/5/2016	SW-16 4/5/2016
Chloride	16887-00-6	860,000	230,000	NE	NE	mg/L	1.45	1.86	2.9	10.2	16.6	7.33
Arsenic - dissolved	7440-38-2 7440-38-2	340 340	150 150	1.4	NE NE	ug/L	<5 <5	<5 <5	<5 <5	3.1 J+	3.9 J+	3.2 J+
Arsenic - total Volatile Organic Compounds	7440-36-2	340	150	1.4	INE.	ug/L	<0	<5	<0	159	<5	3J
	630-20-6	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	71-55-6	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	466	10	40	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloro-1,2,2-trifluoroethane		900	20 NE	160	NE	ug/L	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane 1.1-Dichloroethane	79-00-5 75-34-3	NE NE	NE NE	NE NE	NE NE	ug/L	<0.75 <0.75	<0.75 <0.75	<0.75 <0.75	<0.75 <0.75	<0.75 <0.75	<0.75 <0.75
1,1-Dichloroethane	75-34-3 75-35-4	580	13	7,100	NE NE	ug/L ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
1,1-Dichloropropene	563-58-6	NE	NE	NE	NE NE	ug/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	87-61-6	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	96-18-4	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	120-82-1	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	95-63-6	NE	NE	NE	NE NE	ug/L	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane 1.2-Dibromoethane	96-12-8 106-93-4	NE NE	NE NE	NE NE	NE NE	ug/L ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
1,2-Dichlorobenzene	95-50-1	NE	NE NE	NE	NE NE	ug/L ug/L	<1	<1	<1	<1	<1	<1
1.2-Dichloroethane	107-06-2	5,900	131	370	NE NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethene, Total	540-59-0	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	78-87-5	2,625	58	150	NE	ug/L	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	108-70-3	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	108-67-8	NE 200	NE 0.7	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	541-73-1	390	8.7	960	NE NE	ug/L	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	142-28-9 542-75-6	NE NE	NE NE	NE NE	NE NE	ug/L	<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5	<1 <0.5
1,3-Dichloropropene, Total 1.4-Dichlorobenzene	542-75-6 106-46-7	NE 56	1.2	190	NE NE	ug/L ug/L	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 0.66J	<0.5 0.43J	<0.5 <1
1,4-Dichioropenzene	123-91-1	NE	NE	NE	NE NE	ug/L ug/L	<0.17	2.22	0.159	7.13	19.6	6.17
2,2-Dichloropropane	594-20-7	NE	NE NE	NE	NE NE	ug/L	<1	<1	<1	<1	<1	<1
2-Butanone (MEK)	78-93-3	NE	NE	NE	NE	ug/L	<5	<5	<5	<5	<5	<5
2-Chlorotoluene	95-49-8	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
2-Hexanone	591-78-6	NE	NE	NE	NE	ug/L	<5	<5	<5	<5	<5	<5
4-Chlorotoluene	106-43-4	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
4-Isopropyltoluene	99-87-6	NE NE	NE NE	NE NE	NE NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
4-Methyl-2-pentanone (MIBK) Acetone	108-10-1 67-64-1	NE NE	NE NE	NE	NE NE	ug/L ug/L	<5 <5 U	<5 <5 U	<5 <5 U	<5 <5 U	<5 5.1	<5 <5 U
Acrylonitrile	107-13-1	378	8.4	2.5	NE NE	ug/L	<5	<5	<5	<5 <5	3.1 < 5	<5
Benzene	71-43-2	265	5.9	510	NE NE	ug/L	<0.5	<0.5	<0.5	0.22J	<0.5	<0.5
Bromobenzene	108-86-1	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
Bromochloromethane	74-97-5	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
Bromodichloromethane	75-27-4	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	1,465	33	1,400	NE NE	ug/L	<1	<1	<1	<1	<1	<1
Bromomethane Carbon disulfide	74-83-9 75-15-0	NE NE	NE NE	NE NE	NE NE	ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
Carbon tetrachloride	56-23-5	1,365	30	16	NE NE	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	108-90-7	795	18	1,600	NE NE	ug/L	<0.5	<0.5	<0.5	<0.5	0.28J	<0.5
Chloroethane	75-00-3	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	0.45J	<1
Chloroform	67-66-3	1,445	32	4,700	NE	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
Chloromethane	74-87-3	NE	NE	NE	NE	ug/L	<2	<2	<2	<2	<2	<2
cis-1,2-Dichloroethene	156-59-2	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	10061-01-5 124-48-1	NE NE	NE NE	NE 130	NE NE	ug/L	<0.5 <0.5	<0.5	<0.5	<0.5 <0.5	<0.5	<0.5
Dibromochloromethane Dibromomethane	74-95-3	NE NE	NE NE	NE	NE NE	ug/L ug/L	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
Dichlorodifluoromethane	75-71-8	NE	NE NE	NE	NE NE	ug/L	<2	<2	<2	<2	<2	<2
Ethyl ether	60-29-7	NE	NE NE	NE	NE NE	ug/L	<1	<1	<1	0.54J	1.2	<1
Ethylbenzene	100-41-4	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sopropyl ether	108-20-3	1,600	36	2,100	NE	ug/L	<1	<1	<1	<1	<1	<1
sopropylbenzene	98-82-8	NE	NE	180	NE	ug/L	<0.5	<0.5	<0.5	0.33J	<0.5	<0.5
m,p-Xylene Methyl tert-butyl ether	179601-23-1 1634-04-4	NE 133	NE 3	NE NE	NE NE	ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
vietnyi tert-butyi etner Methylene Chloride	75-09-2	NE	NE	NE NE	NE NE	ug/L ug/L	<3	<3	<3	<3	<3	<3
Naphthalene	91-20-3	9,650	214	5,900	NE NE	ug/L	<1	<1	<1	<1	<1	<1
n-Butylbenzene	104-51-8	115	2.6	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
N-Propylbenzene	103-65-1	NE	NE	NE	NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-Xylene	95-47-6	NE	NE	NE	NE	ug/L	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	135-98-8	133	3	NE	NE	ug/L	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5
:-Butyl alcohol	75-65-0	NE NE	NE NE	NE NE	NE NE	ug/L	<10 <1	3.6J	<10 <1	11 <1	13 <1	1.6J
Tert-amyl methyl ether Tert-butyl ethyl ether	994-05-8 637-92-3	NE NE	NE NE	NE NE	NE NE	ug/L ug/L	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1
tert-Butylbenzene	98-06-6	NE NE	NE NE	NE	NE NE	ug/L ug/L	<1	<1	<1	<1	<1	<1
Tetrachloroethene	127-18-4	240	5.3	33	NE NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrahydrofuran	109-99-9	NE	NE	NE	NE	ug/L	<2	<2	<2	1.1J	1.6J	<2
Toluene	108-88-3	635	14	0.015	NE	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
trans-1,2-Dichloroethene	156-60-5	NE 	NE	10	NE	ug/L	<0.75	<0.75	<0.75	<0.75	<0.75	<0.75
trans-1,3-Dichloropropene	10061-02-6	NE	NE NE	NE	NE NE	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
rans-1,4-Dichloro-2-butene	110-57-6	NE NE	NE NE	NE	NE NE	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Trichloroethene Trichlorofluoromethane	79-01-6 75-69-4	NE NE	NE NE	NE NE	NE NE	ug/L	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1	<0.5 <1
ricniorotiuoromethane Vinyl chloride	75-69-4 75-01-4	NE NE	NE NE	2.4	NE NE	ug/L ug/L	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Xylenes, Total	1330-20-7	NE	NE NE	NE	NE NE	ug/L	<1	<1	<1	<1	<1	<1
Field Parameters						- J- =	•	•		•	· · · · · · · · · · · · · · · · · · ·	<u>'</u>
Temperature	N/A	NE	NE	NE	NE	С	3.2		3.1	2.1	2.1	3
H	N/A	NE	NE	NE	6.5 - 9.0	SU	6.95	6.95	6.95	6.29	6.91	6.5
Specific Conductivity	N/A	NE	NE NE	NE	NE -	umhos/cm	181.6		101.6	181	181	108
Dissolved Oxygen	N/A	NE	NE NE	NE	>5	mg/L	4.21	8.21	4.25 -3.6	3.2	10.2	6.1
		. NIT	NIE	NE	NE	mV	-2.6	151.6	2.0	404.4		
Oxidation Reduction Potential Furbidity	N/A N/A	NE NE	NE NE	NE	<5	NTU	29		-3.0 18.1	101.1 281	-10.2 12.1	-5 2

Notes:

ug/L = micrograms per liter; mg/L = miligrams per liter; C = degrees celsius; SU = standard units; umhos/com = microsemens per centimeter; mV = milivolts; NTU = nephelometric turbidity units

BOLD indicates results detected above the laboratory reporting limit

SHADING indicates results reported above an applicable standard for that constituent
Standards, based on RIDEM Water Quality Regulations, July 2006 (Amended December 2010), are as follows:

Acute/Chronic FALC = Acute/Chronic Freshwater Aquatic Life Criteria

HHC CAO = Human Health Criteria for Consumption of Aquatic Organisms Only

NE = a level has not yet been established for the specific analyte

Data validated in accordance with EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013).

Table 5
L&RR Landfill, North Smithfield, RI
Flare Inlet Gas Samples,
TO-15 Data Summary

Notes:

Analytes in **BOLD** font are the L&RR Site Contaminants of Concern for air listed in the 1988 Record of Decision Summary, Table VI-1

DATE SAMPLE	ED	12/23/09 Run 1	Run 2	Run 3	02/27/14	12/03/14 Run 1	Run 2	<u>Run 3</u>	Average	11/12/15
ANALYTE		<u>IXUII I</u>	IXUII Z	<u>IXUII 3</u>		<u>IXUIT I</u>	<u>IXUIT Z</u>	<u>IXUII 5</u>	_Average	
Acetone (2-propanone)	ppbv	2430	2560	6960	3500	<780	<500	<420		3000
Benzene	ppbv	2800	3100	2730	2300	2450	2330	2800	2527	2200
Benzyl chloride	ppbv	ND	ND	ND	ND	<190	<180	<190		<30
Bromodichloromethane	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
Bromoform	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
Bromomethane	ppbv	ND	ND	ND	ND	<34	<32	<34		<30
1,3-Butadiene	ppbv	ND	ND	ND	ND	<95	<90	<95		<30
2-Butanone (Methyl Ethyl Ketone)	ppbv	2260	2410	3320	2000	<570	<540	<570		3800
Carbon Disulfide	ppbv	70	ND	ND	20	<95	<90	<95		<300
Carbon Tetrachloride	ppbv	ND	ND	ND	ND	<57	<54	<57		<30
Chlorobenzene	ppbv	192	224	175	200	263	265	344	291	550
Chloroethane	ppbv	185	278	203	79	119	112	133	121	97
Chloroform	ppbv	ND	ND	ND	ND	<29	<27	<29		<30
Chloromethane (methyl chloride)	ppbv	ND	ND	ND	6.6	63	<54	<57		<60
Cyclohexane	ppbv	1860	2050	1940	590	1050	992	1200	1081	1500
Dibromochloromethane	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
1,2-Dibromoethane (Ethylene Dibromide)	ppbv	ND	ND	ND	ND	<32	<31	<32		<30
1,2-Dichlorobenzene	ppbv	ND	ND	ND	ND	<76	<72	<76		56
1,3-Dichlorobenzene	ppbv	ND	ND	ND	ND	<76	<72	<76		<30
1,4-Dichlorobenzene	ppbv	178	231	ND	460	179	177	238	198	370
Dichlorodifluoromethane (Freon 12)	ppbv	291	328	320	280	120	120	138	126	590
1,1-Dichloroethane	ppbv	202	213	193	76	177	191	230	199	230
1,2-Dichloroethane	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
1,1-Dichloroethylene	ppbv	ND	ND	ND	ND	<48	<45	<48		<30
cis-1,2-Dichloroethylene	ppbv	433	472	422	280	552	536	674	587	910
trans-1,2-Dichloroethylene	ppbv	32	ND	ND	14	<38	<36	<38		<30
1,2-Dichloropropane	ppbv	ND	ND	ND	15	<76	<72	<76		<30
cis-1,3-Dichloropropene	ppbv	ND	ND	ND	ND	<34	<32	<34		<30
trans-1,3-Dichloropropene	ppbv	ND	ND	ND	ND	<32	<31	<32		<30
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ppbv	124	135	132	64	121	122	139	127	100
1,4-Dioxane	ppbv	ND	ND	ND	ND	<380	<360	<380		340
Ethanol	ppbv	19500	19000	18600	6500	<580	<410	<440		11000
Ethyl Acetate	ppbv	867	940	ND	610	<420	<400	<420		620
Ethylbenzene	ppbv	8760	9680	7680	4700	7810	7610	9610	8343	4100

Table 5
L&RR Landfill, North Smithfield, RI
Flare Inlet Gas Samples,
TO-15 Data Summary

Notes:

Analytes in **BOLD** font are the L&RR Site Contaminants of Concern for air listed in the 1988 Record of Decision Summary, Table VI-1

DATE SAMPL	.ED	12/23/09 Run 1	Run 2	Run 3	02/27/14	12/03/14 Run 1	Run 2	Run 3	Average	11/12/15
ANALYTE										
4-Ethyltoluene	ppbv	321	ND	ND	430	<420	403	517		570
Heptane	ppbv	1460	1590	1370	620	1210	1140	1390	1247	1500
Hexachlorobutadiene	ppbv	ND	ND	ND	ND	<570	<540	<570		<30
Hexane	ppbv	1580	1820	1690	860	2500	2030	2600	2377	1600
2-Hexanone (Methyl Butyl Ketone)	ppbv	ND	ND	ND	ND	<380	<360	<380		<30
Isopropanol (2 propanol)	ppbv	4220	4290	4330	2100	<570	<540	<570		1800
Methyl tert-Butyl Ether (MTBE)	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
Methylene Chloride (Dichloromethane)	ppbv	157	ND	ND	60	<580	<320	<450		470
4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	ppbv	ND	ND	ND	ND	<610	<580	<610		<30
Naphthalene	ppbv				390					140
Propene	ppbv	7040	7360	7220	ND	4740	4510	5400	4883	9400
Styrene	ppbv	190	296	184	140	104	95	121	107	160
1,1,2,2-Tetrachloroethane	ppbv	ND	ND	ND	ND	<38	<36	<38		<30
Tetrachloroethylene	ppbv	135	146	122	79	93	92	110	98	1000
Tetrahydrofuran	ppbv	1410	1700	1600	630	<76	<72	<76		940
Toluene	ppbv	41800	54300	45500	13000	35400	27300	35300	32667	6000
1,2,4-Trichlorobenzene	ppbv	ND	ND	ND	17	<380	<360	<380		<30
1,1,1-Trichloroethane	ppbv	ND	ND	ND	ND	<57	<54	<57		<30
1,1,2-Trichloroethane	ppbv	ND	ND	ND	ND	<29	<27	<29		<30
Trichloroethylene	ppbv	91	98	ND	43	70	78	89	79	120
Trichlorofluoromethane (Freon 11)	ppbv	ND	ND	ND	3.5	<38	<36	<38		<120
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ppbv	ND	ND	ND	3	<29	<27	<29		<120
1,2,4-Trimethylbenzene	ppbv	921	1100	924	750	998	981	1270	1083	1500
1,3,5-Trimethylbenzene	ppbv	455	532	463	580	525	515	650	563	720
Vinyl Acetate	ppbv	ND	130	ND	ND	<38	<36	<38		<600
Vinyl Chloride	ppbv	1330	1380	1290	550	878	891	1070	946	830
m&p-Xylene	ppbv	15300	17500	13500	7700	13400	13100	16600	14367	4600
o-Xylene	ppbv	3340	3830	2960	2000	3240	3160	4030	3477	4100

Table 6: 2016 Residential Drinking Water Analytical Results L&RR Superfund Site, North Smithfield, Rhode Island

Sample Locati	ion		1305 POUND HILL	1309 POUND HILL	1313 POUND HILL	1317 POUND HILL	1325 POUND HILL	1363 POUND HILL	1375 POUND HILL	1431 POUND HILL
•	ate CAS Number	Units	6/7/2016	6/7/2016	6/7/2016	6/7/2016	6/7/2016	6/7/2016	6/7/2016	6/7/2016
Volatile Organic Compounds	ate one italiber	Ointo	0/1/2010	0/1/2010	0/1/2010	OTTESTS	OFFIZOTO	0/1/2010	0/1/2010	0/1/2010
1,1,1,2-Tetrachloroethane	630-20-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	71-55-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	79-34-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	79-00-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethane	75-34-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloroethene	75-35-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,1-Dichloropropene	563-58-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichlorobenzene	87-61-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,3-Trichloropropane	96-18-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trichlorobenzene	120-82-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene	95-63-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromo-3-chloropropane	96-12-8	ug/L	<0.01	<0.01	<0.01	<0.01	<0.011	<0.01	<0.01	<0.01
1,2-Dibromo-3-chloropropane	96-12-8	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dibromoethane	106-93-4	ug/L	<0.01	<0.01	<0.01	<0.01	<0.011	<0.01	<0.01	<0.01
1,2-Dibromoethane	106-93-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichlorobenzene	95-50-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloroethane	107-06-2	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,2-Dichloropropane	78-87-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3,5-Trimethylbenzene	108-67-8	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichlorobenzene	541-73-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,3-Dichloropropane	142-28-9	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dichlorobenzene	106-46-7	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
1,4-Dioxane	123-91-1	ug/L	<0.153	<0.16	<0.153	<0.156	<0.144*	<0.153	<0.147	<0.142
2,2-Dichloropropane	594-20-7	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzene	71-43-2	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromobenzene	108-86-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromochloromethane	74-97-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	75-27-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromoform	75-25-2	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bromomethane	74-83-9	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon tetrachloride	56-23-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorobenzene	108-90-7	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroethane	75-00-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	67-66-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.5
Chloromethane	74-87-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	156-59-2	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
cis-1,3-Dichloropropene	10061-01-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromochloromethane	124-48-1	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dibromomethane	74-95-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Dichlorodifluoromethane	75-71-8	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	100-41-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Hexachlorobutadiene	87-68-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Isopropylbenzene Methyl tert butyl ether	98-82-8 1634-04-4	ug/L	<0.5 <0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5 <0.5
Methylene chloride	75-09-2	ug/L	<0.5 <0.5	<0.5						
Naphthalene	91-20-3	ug/L ug/L	<0.5	<0.5 <0.5	<0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5
n-Butylbenzene	104-51-8	ug/L ug/L	<0.5 <0.5	<0.5						
n-Propylbenzene	103-65-1	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-Chlorotoluene	95-49-8	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
o-Chlorotoluene o-Xylene	95-49-6	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p/m-Xylene	179601-23-1	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-Chlorotoluene	106-43-4	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
p-Isopropyltoluene	99-87-6	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
sec-Butylbenzene	135-98-8	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Styrene	100-42-5	ug/L ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
tert-Butylbenzene	98-06-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Tetrachloroethene	127-18-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Toluene	108-88-3	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	156-60-5	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
trans-1,3-Dichloropropene	10061-02-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichloroethene	79-01-6	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Trichlorofluoromethane	75-69-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Vinyl chloride	75-01-4	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes, Total	1330-20-7	ug/L	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
	.000 20 1	~y, L	1	.0.0	.0.0	.0.0				

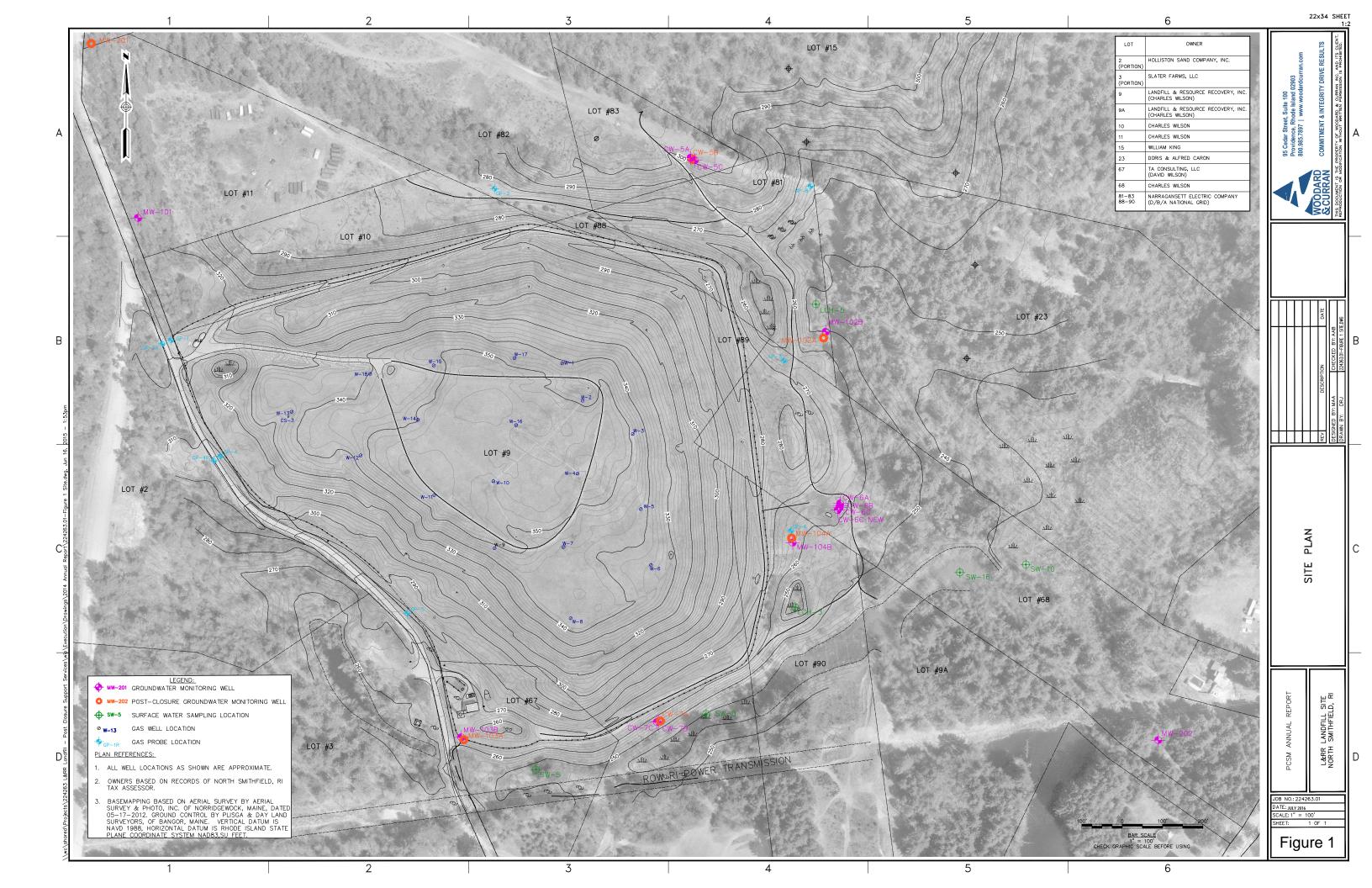
ug/L = micrograms per liter
BOLD results indicate those detected above the laboratory reporting limit

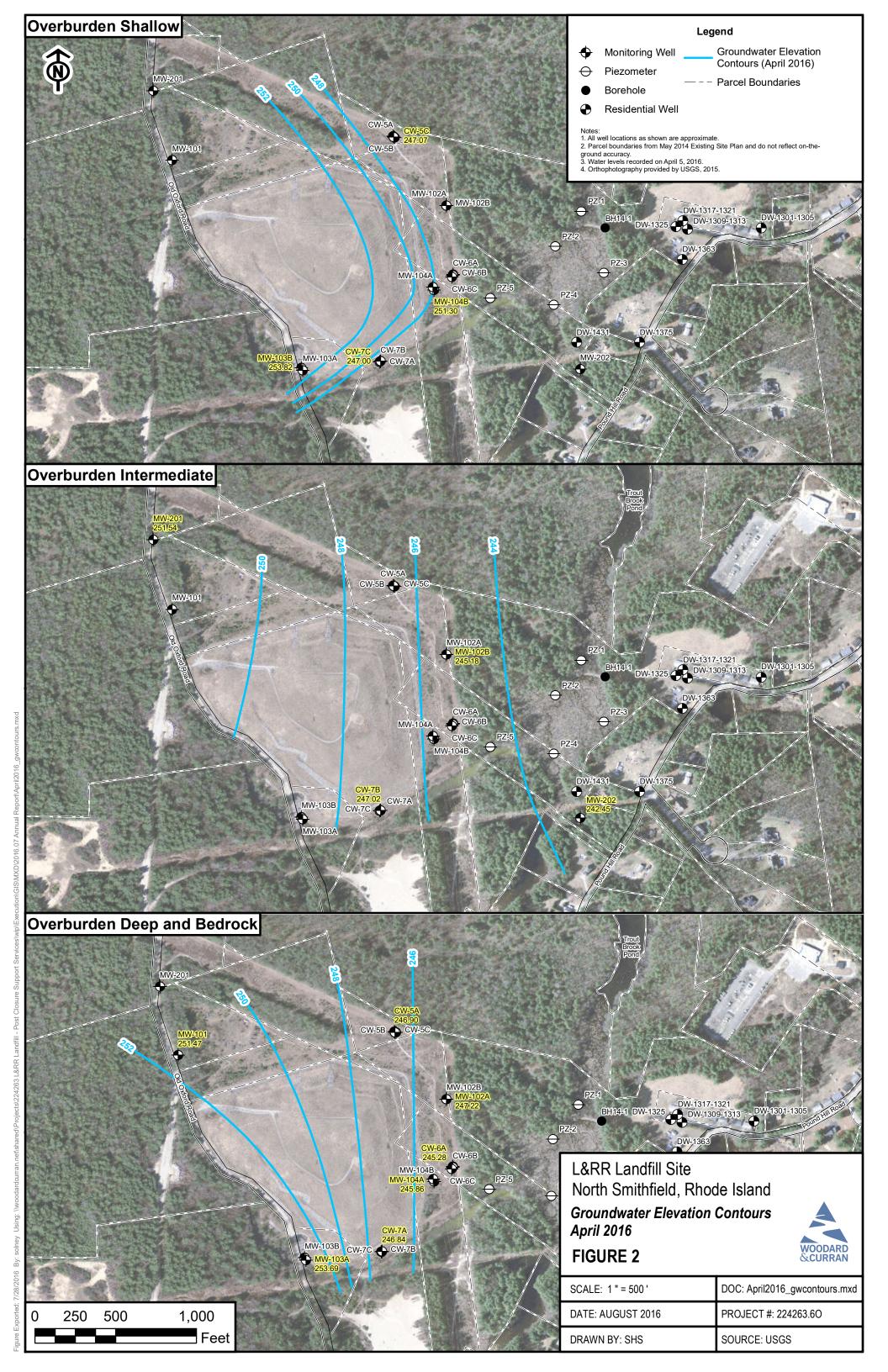
Data validated in accordance with EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures (EPA, 2013).

* Result is from re-analysis.



FIGURES







APPENDIX A: MONTHLY AND QUARTERLY INSPECTION REPORTS (MAY 2015 THROUGH MARCH 2016)



June 15, 2015

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site

Monthly Progress Report – May 2015

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this monthly report summarizes site activities completed during May 2015 by Woodard & Curran.

Summary of Monthly Activities

As discussed in previous Monthly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was re-configured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period:

- Between May 6 and May 10, 2015 the flare operated.
- Between May 13 and May 17, 2015 the flare operated.

During May 2015, the flare experienced several unexpected shutdowns due to a problem with the flare detection sensor. The flare detection sensor was repaired on June 2, 2015 and the flare has been operating as programmed since.

Woodard & Curran conducted the semi-annual flare inspection on May 11, 2015. The flare (flame arrestor, burners, flame detector lens, and IRIS output), air compressor, knockout sump and blowers #1 and #2 are operating properly. Cleaning of the flame arrestor was performed to remove minor dust and dirt in the housing and arrestor plates.

As discussed in the previous monthly report and in a letter submitted to USEPA on May 26, 2015, Request to Modify Gas Monitoring and Well Field Tuning Frequency, Woodard & Curran proposed that gas probe monitoring and well field tuning be reduced from monthly to quarterly monitoring. Monthly monitoring will continue until formal approval to reduce monitoring to quarterly has been received.

The monthly site visit was conducted on May 29, 2015. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1 through GP-6, GP-8, GP-1R, and GP-4R. Woodard & Curran proposed to end the monitoring of perimeter probes GP-1 and GP-4 as compliance points beginning in September 2014. The compliance points for these locations have been replaced with GP-1R and GP-4R. As discussed in the previous monthly report Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in June 2015. This proposal will also be submitted in a separate letter request.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.



A summary of pertinent information includes the following:

- The flare inlet flow rate, temperature, and methane level measured at 433 cfm, 1783°F, and 41.1% respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know whether you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures

cc: Paul Kulpa, RIDEM
David Moreira, Waste Management
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
Karen L. Douglas, Corning, Inc.
Angela Knight, Corning, Inc.

DATE:	5/29/2015		WEATHER	CONDITION	S:	Sunny			MONITORED BY:	S. Drisc	oll/J. Guerra
TEMP:	70		SYSTEM C	ONDITION:		On	Line		BAROMETRIC PRESSURE	START:	29.84
lare Inlet Temp	o:	1783	Flare Outle	t Temp:	1062				BAROMETRIC PRESSURE	END:	30.06
YSTEM LEVEL	LS								FLOW (cfm):	433	
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP.	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVAT	IONS & ACTIONS	ONS TAKEN)
FLARE	11:10	41.1	31.8	0.5	NM	1.20					
BLOWER	11:05	40.7	31.9	0.6	60.0	-8.60					
W-1	13:30	58.8	30.4	0.9	86	-2.4	50%	50%			
W-2	13:20	42.1	29.6	0.4	92	-3	100%	100%			
W-3	13:10	47.5	27.1	0.8	0	56	0%	0%			
W-4	13:00	53.6	38.1	0.1	82	-1.2	0%	0%			
W-5	12:30	0.1	0.1	20.1	72	0	0%	0%			
W-6	12:20	1.0	22.9	0.1	80	.18	0%	0%			
W-7	12:00	49.9	35.3	0.6	70	-1.6	25%	25%			
W-8	12:10	23.9	20.2	5.3	78	-4.8	100%	100%			
W-9	11:50	36.4	29.8	0.4	80	-5.8	100%	100%			
W-10	11:40	41.1	31.1	0.7	84	-4	100%	100%			
W-11	14:50	42.7	32.2	0.2	0	-4.8	100%	100%			
W-12	14:40	51.7	37.7	0.1	88	-2.4	100%	100%			
W-13	14:30	56.4	37.1	0.7	60	-6.2	100%	100%			
W-14	15:00	44.1	33.8	0.3	76	-1.8	0%	0%			
W-15	13:55	59.2	36.6	0.3	104	-3	100%	100%			
W-16	11:30	49.9	35.9	0.2	90	-3	50%	75%	Opened to 75%		
W-17	14:05	46.0	30.4	0.2	0	-2.4	50%	50%	opened to 70%		
W-17	14:15	59.3	40.4	0.2	84	-5	100%	100%			
Building	7:15	0.0	0.1	20.9	60.0			10070			
		•	0.1	20.9			COMMEN		N BACK		
OMPLIANCE F	ROBE LEV	ELS			11012.7			. 0. 7.02 0			
WELL NO.	TIME	C114 (0/)	CO2 (%)	02 (0/)	TEMP (°E)	PRESSURE ("H2O)	VALVE POSITION (%)		COMMENTS (ODSEDVATIONS &	ACTIONS TA	VEN)
GP-1	10:00	CH4 (%) 0.0	CO2 (%) 10.8	O2 (%) 10.2	TEMP. (°F) N/A	N/A	N/A		COMMENTS (OBSERVATIONS &	ACTIONS TA	NEN)
					†				Non-Compliance Probe		
GP-1R GP-2	10:10	0.0	14.7	4.4	N/A	N/A	N/A	Compliance F	TIONE		
	9:20	0.0	1.6	18.6	N/A	N/A	N/A				
GP-3	9:45	0.0	1.6	18.6	N/A	N/A	N/A	Intorm = =!:=1 -	Non Compliance Decke		
GP-4	10:35	0.0	4.6	12.4	N/A	N/A	N/A		Non-Compliance Probe		
GP-4R	10:45	0.0	0.5	16.1	N/A	N/A	N/A	Compliance F	rope		
GP-5	10:55	0.0	1.5	19.7	N/A	N/A	N/A				
GP-6	8:45	0.0	2.0	18.7	N/A	N/A	N/A				
GP-8	9:00	0.0	0.1	20.1	N/A	N/A	N/A				
DDITIONAL CO											
M = Not Measu											
/A = Not Availa	hlo										

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

 Date:
 5/29/15
 Time On Site 7:00 – 16:00

 Weather:
 Sunny
 Temperature: 70° F

Signature:

	CORRECTIVE	MEASURES				
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
1. Security System		Adequate				
a. Gate	Inoperative		Gate	Bent	None	
b. Fence	Holes					
c. Locks	Inoperative					
d. Signs	Missing, Unreadable					
2. Cover Integrity		Adequate				
a. Surface Features	Animal Burrows, Other Holes, Cracks				None	
b. Slopes	Washouts and Sloughing					
c. Vegetation	Brushes/Tree Growth, Bare Spots					
d. Breakouts	Washouts and Discoloration					
3. Stormwater Management System		Adequate				
a. Diversion Swales	Ponding Water, Filling and Sediment				None	
b. Catch Basins	Filling with Sediment, Blocked by Debris					
c. Stilling Wells	Filling with Sediment					
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed					
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed					
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed					
4. Groundwater Monitoring Wells		Adequate				
a. Locking Cap	Broken, No Lock				None	
b. Protective Casing	Cracked, Missing				None	
c. Concrete Collar	Cracked, Missing					
d. Local Erosion	Ponding, Water Channels					
5. Landfill Gas Monitoring and		Adequate				
Collection System		1			Installed sample	5/29/15
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port				port and	
b. LFG Migration Probes	Physical Damage to Casing				temperature gauge	
c. Control Panel	Recording Paper and Pens Empty				on W-16	
6. Permanent Monuments		Adequate				
a. Bench Marks	Tilting/Heaving	_			None	
b. Settlement Monuments	Tilting /Heaving					
COMMENTS: Refer to cover lette	r for the status of additional system upgrades and repa	irs scheduled for in	mplementation.			



July 30, 2015

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site

Monthly Progress Report - June 2015

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this monthly report summarizes site activities completed during June 2015 by Woodard & Curran.

Summary of Monthly Activities

As discussed in previous Monthly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was re-configured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period:

- Between June 2 and June 5, 2015 the flare operated.
- Between June 7 and June 11, 2015 the flare operated.
- Between June 14 and June 18, 2015 the flare operated.
- Between June 21 and June 25, 2015 the flare operated.
- Between June 28 and July 2, 2015 the flare operated.

As discussed in the previous monthly report and in a letter submitted to USEPA on May 26, 2015, Request to Modify Gas Monitoring and Well Field Tuning Frequency, Woodard & Curran proposed that gas probe monitoring and well field tuning be reduced from monthly to quarterly monitoring. Monthly monitoring will continue until formal approval to reduce monitoring to quarterly has been received.

On June 22, 2015, EQ Environmental of Wrentham, Massachusetts, was onsite to remove 2,200 gallons of condensate from the condensate storage tank. The non-hazardous manifest is attached.

The monthly site visit was conducted on June 30, 2015. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1 through GP-6, GP-8, GP-1R, and GP-4R. Woodard & Curran proposed to end the monitoring of perimeter probes GP-1 and GP-4 as compliance points beginning in September 2014. The compliance points for these locations have been replaced with GP-1R and GP-4R. As discussed in the previous monthly report Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in July 2015. This proposal will also be submitted in a separate letter request.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.



A summary of pertinent information includes the following:

- The flare inlet flow rate, temperature, and methane level measured at 392 cfm, 1808°F, and 34.9% respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know whether you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures

cc: Paul Kulpa, RIDEM
David Moreira, Waste Management
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
Karen L. Douglas, Corning, Inc.
Angela Knight, Corning, Inc.

DATE:	6/30/2015		WEATHER	CONDITION	IS:	Sunny			MONITORED BY: S. Driscoll / G. Amato
TEMP:	70		SYSTEM C	ONDITION:		On	Line		BAROMETRIC PRESSURE START: 29.68
Flare Inlet Tem	p:	1808	Flare Outle	et Temp:	1075]	BAROMETRIC PRESSURE END: 29.67
SYSTEM LEVE	LS								FLOW (cfm): 392
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP.	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
FLARE	7:20	34.9	30.5	1.0	NA	+1.5			
BLOWER	7:15	34.7	30.5	1.2	70.0	-11.0			
W-1	13:55	60.2	33.9	0.9	86	-4.5	50%	50%	
W-2	13:40	43.7	34.3	0.3	92	-5.5	100%	100%	
W-3	13:25	7.7	5.5	17.1	NA	-3	0%	0%	
W-4	13:15	0.7	1.5	20.4	82	-4	0%	0%	
W-5	13:00	0.9	1.4	20.8	74	0	0%	0%	
W-6	12:55	2.7	25.6	2.0	88	+0.28	0%	0%	
W-7	12:00	25.9	19.4	11.4	72	-4.5	25%	25%	
W-8	12:45	23.9	20.8	4.8	80	-7	100%	100%	
W-9	11:45	32.4	30.4	0.4	80	-8.5	100%	100%	
W-10	11:25	41.0	33.5	0.2	84	-7	100%	100%	
W-11	11:15	36.9	32.0	0.3	NA	-8	100%	100%	
W-12	11:05	38.4	34.8	0.2	88	-5	100%	100%	
W-13	10:55	42.9	32.4	2.7	70	-7.5	100%	100%	
W-14	14:45	4.8	3.6	18.6	78	-2	0%	0%	
W-15	14:15	54.8	36.8	0.5	100	-5.0	100%	100%	
W-16	14:30	48.9	36.7	0.2	90	-5.5	75%	75%	
W-17	14:55	32.2	26.9	1.4	NA	-5.5	50%	50%	
W-18	10:45	55.5	39.3	0.4	86	-6.0	100%	100%	
Building	7:00	0.0	0.1	20.6	78.0				
COMPLIANCE	PROBE LEV	/FLS	•		NOTE: A	ADDITIONA	L COMMEN	IT SPACE	ON BACK
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (%)	C	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
GP-1	9:25	0.0	7.4	13.5	N/A	N/A	N/A		Non-Compliance Probe
GP-1R	9:35	0.0	12.8	5.8	N/A	N/A	N/A	Compliance F	Probe
GP-2	8:30	0.0	3.1	17.8	N/A	N/A	N/A		
GP-3	9:10	0.0	2.0	18.4	N/A	N/A	N/A		
GP-4	9:50	0.0	5.4	12.5	N/A	N/A	N/A		Non-Compliance Probe
GP-4R	10:00	0.0	2.8	16.6	N/A	N/A	N/A	Compliance F	Probe
GP-5 GP-6	10:15 8:00	0.0	2.8 3.3	17.4 17.6	N/A N/A	N/A N/A	N/A N/A		
GP-8	8:50	0.0	0.4	20.7	N/A N/A	N/A N/A	N/A		
ADDITIONAL C			0.4	20.1	14//1	14// (14//1	1	
NM = Not Meas									
N/A = Not Avail	able		•	•	•	•			

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

Inspectors Names	: Sean Driscoll / G. Amato	
•		

Date: 6/30/15 Time On Site 7:00 – 15:30

Weather: Sunny Temperature: 70° F

Signature:

	CORRECTIVE	MEASURES				
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
1. Security System		Adequate				
a. Gate	Inoperative		Gate	Bent	None	
b. Fence	Holes					
c. Locks	Inoperative					
d. Signs	Missing, Unreadable					
2. Cover Integrity		Adequate				
a. Surface Features	Animal Burrows, Other Holes, Cracks	1			None	
b. Slopes	Washouts and Sloughing					
c. Vegetation	Brushes/Tree Growth, Bare Spots					
d. Breakouts	Washouts and Discoloration					
3. Stormwater Management System		Adequate				
a. Diversion Swales	Ponding Water, Filling and Sediment	1			None	
b. Catch Basins	Filling with Sediment, Blocked by Debris					
c. Stilling Wells	Filling with Sediment					
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed					
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed					
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed					
4. Groundwater Monitoring Wells		Adequate				
a. Locking Cap	Broken, No Lock	*			None	
b. Protective Casing	Cracked, Missing				None	
c. Concrete Collar	Cracked, Missing					
d. Local Erosion	Ponding, Water Channels					
5. Landfill Gas Monitoring and		Adequate				
Collection System					None	
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port					
b. LFG Migration Probes	Physical Damage to Casing					
c. Control Panel	Recording Paper and Pens Empty					
6. Permanent Monuments		Adequate				
a. Bench Marks	Tilting/Heaving				None	
b. Settlement Monuments	Tilting /Heaving					
COMMENTS: Refer to cover lette	er for the status of additional system upgrades and repa	irs scheduled for i	mplementation			



EQ Northeast, Inc. 185 Industrial Road Wrentham, MA 02093 Emergency Response #:

Phone: (508) 384-8151 Fax: (508) 384-6028 Work Order: 8882300 Reference Code:

Arrival Time:

Date: 06/17/2015 Prepared By: Wanda Tobey

Name: WOODAR	BILLING INF	ORMATION		GENERATOR INFORM	STION
Name: WOODAR		SELECTION OF TAKEN		SCHOOL SELECTION OF THE SELECTION	
Acct. #: 13134-99	D & CURRAN INC	Contact: Title:		EPA#: RID093212439 (ID: 73759)	ontact: Title:
Phone: (866) 702-	6371	Phone:		Phone: (860) 883-3798	Phone: () -
	NGLAND BUSINESS	Mobile: ()	-	Addr: OFF OLD OXFORD RD. NORTH SMITHFIELD: RI 02876	Mobile: () -
ANDOVER	UITE 180 R. MA 01810	PO / Rel:			
TSDF: LIQI	UID ENVIRONMENT	AL SOLUTIONS TSD	TSDF INFORMAT		05808
	PLEASANT STREET LEBORO,MA 02703			Phone: (508) 236 Fax: () -	-6001 301
Manifest:				ONMENTAL SOLUTIONS EPA #: MAC3	
TSDF Contact: R	ICK DERBY	Ad	idr: 627 PLEASAN ATTLEBORO	TOTAL STREET,	
HM DESCRIPTION					TYPE QUANTITY UN
Non Hiszardous Approval Code: 1 Hand, Instruct:		T Not RCRA Regulated, Waste Codes; NONE	None, None, None		17 2300 6
QUIPMENT ACKN					,
QUIPMENT ACKNOWled	iges that this equipm			ge or other service to be providedSpotted #Picked_up #	
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QUIPMENT ACKNowled ustomer acknowled ractor # 40% Tractor	iges that this equipm aller# Tanki	Parte Roll-Off Bo		ge or other service to be provided. Spotted # Picked_up #	Vac Fee
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Driver Pickup Arrive at Shipper: Start Loading: Leave Site: CHIPMENT RECEIVED IN. AWFULLY ON FILE ON TO Driver Dotivery Arrive at TSDF: Start Unloading: Finish Unloading:	iges that this equipm ailer # Tanki r Signature Date C	Pate Time Suo RICONTENTS UNKNOWN) E UNFORM STRAIGHT TUDIS AND TARIFFS Old 199	Explanation VS. THIS IS TO CEPTIFY T MAPPICABLE PEDULA X MAR	ge or other service to be provided. Spotted # Picked_up # Customer Signature HAT THE ABOVE NAMED MATERIALS ARE PROPERLY CUED AND ARE IN PROPERLY CUED AND ARE IN PROPERLY CUED AND ARE IN PROPERLY OF TRANSPORTATIONS OF THE DEPARTMENT OF TRANSPORTATION.	Vac Fee
Pickup Arrive at Shipper: Start Loading: Leave Site; SHIPMENT RESERVED IN. AWFULLY ON FILE ON TO Driver Delivery Arrive at TSDF;	iges that this equipm ailer # Tanki r Signature Date C	Pate Time Suo RICONTENTS UNKNOWN) E UNFORM STRAIGHT TUDIS AND TARIFFS Old 199	Explanation VS. THIS IS TO CEPTIFY T MAPPICABLE PEDULA X MAR	ge or other service to be provided. Spotted # Picked_up # Customer Signature HAT THE ABOVE NAMED MATERIALS ARE PROPERLY CUED AND ARE IN PROPERLY CUED AND ARE IN PROPERLY CUED AND ARE IN PROPERLY OF TRANSPORTATIONS OF THE DEPARTMENT OF TRANSPORTATION.	Vac Fee



September 15, 2015

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site

Monthly Progress Report – July 2015

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this monthly report summarizes site activities completed during July 2015 by Woodard & Curran.

Summary of Monthly Activities

As discussed in previous Monthly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was re-configured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period:

- Between June 28 and July 2, 2015 the flare operated.
- Between July 5 and July 9, 2015 the flare operated.
- Between July 12 and July 16, 2015 the flare operated.
- Between July 19 and July 23, 2015 the flare operated.
- Between July 26 and July 30, 2015 the flare operated.
- Between July 31 and August 4, 2015 the flare operated.

As discussed in the previous monthly report and in a letter submitted to USEPA on May 26, 2015, Request to Modify Gas Monitoring and Well Field Tuning Frequency, Woodard & Curran proposed that gas probe monitoring and well field tuning be reduced from monthly to quarterly monitoring. Monthly monitoring will continue until formal approval to reduce monitoring to quarterly has been received.

The monthly site visit was conducted on July 31, 2015. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1 through GP-6, GP-8, GP-1R, and GP-4R. As discussed in previous monthly reports Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in July 2015. The compliance points for these locations have been replaced with GP-1R and GP-4R.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.



A summary of pertinent information includes the following:

- The flare inlet flow rate, temperature, and methane level measured at 401 cfm, 1789°F, and 34.2% respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know whether you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures

cc: Paul Kulpa, RIDEM
David Moreira, Waste Management
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
Karen L. Douglas, Corning, Inc.
Angela Knight, Corning, Inc.

	7/31/2015		WEATHER	CONDITION	NS:	Sunny			MONITORED BY: J. Guerra/G. Rose
TEMP:	MP: 90 SYSTEM CONDITION: ON Line]	BAROMETRIC PRESSURE START: 29.51					
lare Inlet Tem	p:	1789	Flare Outle	Flare Outlet Temp: 1074]	BAROMETRIC PRESSURE END: 29.50
YSTEM LEVE	LS								FLOW (cfm): 401
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP.	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN
FLARE	10:05	34.2	31.2	0.3	-	1.50			,
BLOWER	10:00	30.8	28.4	1.9	72.0	-7.60			
W-1	11:10	62.3	36.0	0.4	90	-2	50%	75%	Opened to 75%
W-2	11:20	43.4	34.4	0.4	92	-2.4	100%	100%	
W-3	11:30	47.3	30.8	0.3	NA	-0.16	0%	0%	
W-4	11:40	20.1	12.3	3.4	84	-0.96	0%	0%	
W-5	11:50	1.9	2.1	19.2	76	-0.16	0%	0%	
W-6	12:00	4.5	25.1	2.5	86	0.22	0%	0%	
W-7	12:10	49.9	36.9	2.4	74	-0.74	25%	25%	
W-8	12:55	26.7	26.3	1.7	74	-4	100%	100%	
W-9	13:05	29.0	28.8	1.3	80	-5	100%	100%	
W-10	13:15	36.3	32.2	0.7	85	-3.4	100%	100%	
W-11	13:25	33.2	30.5	0.9	NA	-4	100%	100%	
W-12	13:45	39.0	35.2	0.4	85	-2	100%	100%	
W-13	10:30	44.7	34.6	1.9	70	-5	100%	100%	
W-14	10:40	1.7	1.8	19.3	72	-0.7	0%	0%	
W-15	10:50	50.5	36.2	0.6	108	-2	100%	100%	
W-16	14:00	46.0	35.7	0.4	90	-2.6	75%	100%	Opened to 100%
W-17	11:00	34.6	29.1	0.3	NA	-2	50%	50%	
W-18	10:20	56.5	40.3	0.6	82	-2	100%	100%	
Building	7:15	0.0	0.1	20.6	0.0				
OMPLIANCE			0.1	20.0			L COMMEN	1	ON BACK
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (%)		COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
GP-1	8:25	0.0	13.4	6.2	N/A	N/A	N/A		Non-Compliance Probe
GP-1R	8:35	0.0	8.4	12.3	N/A	N/A	N/A	Compliance F	
GP-2	9:30	0.0	2.9	18.0	N/A	N/A	N/A		
GP-3	9:45	0.0	2.5	17.5	N/A	N/A	N/A		
GP-4	8:00	0.0	4.3	14.6	N/A	N/A	N/A	Intermediate	Non-Compliance Probe
GP-4R	8:10	0.0	3.5	15.7	N/A	N/A	N/A	Compliance Probe	
	7:45	0.0	0.1	20.3	N/A	N/A	N/A		
GP-5				16.7	N/A	N/A	N/A		
GP-5 GP-6 GP-8	8:50	0.0	3.9	20.0	14// (N/A	N/A		

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

Inspectors Names:		Justin Guerra/ Garrett Rose	
Date:	7/31/15		Time On Site 7:00 – 15:30
Weather:	Sunny		Temperature: 90° F
Signature:	Qustin	Huerra.	-

	CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date	
1. Security System		Adequate					
a. Gate	Inoperative		Gate	Bent	None		
b. Fence	Holes						
c. Locks	Inoperative						
d. Signs	Missing, Unreadable						
2. Cover Integrity		Adequate					
a. Surface Features	Animal Burrows, Other Holes, Cracks				None		
b. Slopes	Washouts and Sloughing						
c. Vegetation	Brushes/Tree Growth, Bare Spots						
d. Breakouts	Washouts and Discoloration						
3. Stormwater Management System		Adequate					
a. Diversion Swales	Ponding Water, Filling and Sediment	1			None		
b. Catch Basins	Filling with Sediment, Blocked by Debris						
c. Stilling Wells	Filling with Sediment						
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed						
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed						
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed						
4. Groundwater Monitoring Wells	, page 1	Adequate					
a. Locking Cap	Broken, No Lock	1			None		
b. Protective Casing	Cracked, Missing				None		
c. Concrete Collar	Cracked, Missing						
d. Local Erosion	Ponding, Water Channels						
5. Landfill Gas Monitoring and		Adequate					
Collection System					None		
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port						
b. LFG Migration Probes	Physical Damage to Casing						
c. Control Panel	Recording Paper and Pens Empty						
6. Permanent Monuments		Adequate					
a. Bench Marks	Tilting/Heaving				None		
b. Settlement Monuments	Tilting /Heaving						
COMMENTS: Refer to cover lette	r for the status of additional system upgrades and repa	irs scheduled for it	mplementation.				



September 10, 2015

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site

Monthly Progress Report – August 2015

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this monthly report summarizes site activities completed during August 2015 by Woodard & Curran.

Summary of Monthly Activities

As discussed in previous Monthly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was re-configured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period:

- Between July 31, 2015 and August 4, 2015 the flare operated.
- Between August 7, 2015 and August 11, 2015 the flare operated.
- Between August 14, 2015 and August 18, 2015 the flare operated.
- Between August 21, 2015 and August 25, 2015 the flare operated.
- Between August 28, 2015 and September 1, 2015 the flare operated.

As discussed in the previous monthly report and in a letter submitted to USEPA on May 26, 2015, Request to Modify Gas Monitoring and Well Field Tuning Frequency, Woodard & Curran proposed that gas probe monitoring and well field tuning be reduced from monthly to quarterly monitoring. In an email dated September 10, 2015, USEPA approved the request to Modify Gas Monitoring and Well Field Tuning Frequency from monthly to quarterly monitoring. Based on this approval the gas monitoring and well field tuning schedule was changed with the next being scheduled in November.

The monthly site visit was conducted on August 31, 2015. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1 through GP-6, GP-8, GP-1R, and GP-4R. As discussed in previous monthly reports Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in November 2015. The compliance points for these locations have been replaced with GP-1R and GP-4R.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.



A summary of pertinent information includes the following:

- The flare inlet flow rate, temperature, and methane level measured at 382 cubic feet per minute (cfm), 1782°F, and 29.2% respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know whether you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures

cc: Karen L. Douglas, Corning, Inc.
 Angela Knight, Corning, Inc.
 Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
 Paul Kulpa, RIDEM
 David Moreira, Waste Management

DATE:	8/31/2015		WEATHER	CONDITION	IS:	Sunny			MONITORED BY: G. Rose/ G. Amato
TEMP:	90		SYSTEM CONDITION: ON Line				Line]	BAROMETRIC PRESSURE START: 29.51
Flare Inlet Ter	np:	1782	Flare Outle	t Temp:	1119]	BAROMETRIC PRESSURE END: 29.53
SYSTEM LEVELS									FLOW (cfm): 382
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP.	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)
FLARE	7:20	29.2	28.2	1.0	-	1.70			,
BLOWER	7:15	29.0	28.2	1.0	72.0	-10.00			
W-1	13:55	57.7	32.4	1.1	90	-2.6	75%	75%	
W-2	13:40	36.9	29.9	1.5	96	-4.2	100%	100%	
W-3	13:25	4.2	2.6	17.9	NA	-2	0%	0%	
W-4	13:15	0.0	0.2	19.6	84	-3	0%	0%	
W-5	13:00	0.0	0.0	20.2	78	-2	0%	0%	
W-6	12:55	3.0	23.1	2.7	90	0.17	0%	0%	
W-7	12:00	36.2	27.2	5.9	74	-3.5	25%	25%	
W-8	12:45	19.9	21.2	3.0	78	-6.4	100%	100%	
W-9	11:45	26.3	27.9	0.4	80	-7.8	100%	100%	
W-10	11:25	33.6	31.4	0.1	82	-6	100%	100%	
W-11	11:15	31.5	29.6	0.1	NA	-6.5	100%	100%	
W-12	11:05	31.9	30.9	0.2	90	-4	100%	100%	
W-13	10:55	43.7	33.2	1.8	70	-7	100%	100%	
W-14	14:45	0.0	0.2	19.3	82	-2.6	0%	0%	
W-15	14:15	51.5	35.6	0.2	95	-2	100%	100%	
W-16	14:30	43.4	34.6	0.1	95	-4.5	100%	100%	
W-17	14:55	5.4	2.8	18.2	NA	-2.6	50%	50%	
W-18	10:45	51.3	36.4	1.3	92	-3	100%	100%	
Building	7:00	0.0	0.0	19.8	85.0				
COMPLIANCE	PROBE LEV	VELS			NOTE: A	ADDITIONA	L COMMEN	IT SPACE	ON BACK
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (%)	%) COMMENTS (OBSERVATIONS & ACTIONS TAKEN)	
GP-1	9:25	0.0	6.4	13.5	N/A	N/A	N/A	Intermediate Non-Compliance Probe	
GP-1R	9:35	0.0	12.9	6.1	N/A	N/A	N/A	Compliance F	Probe
GP-2	8:30	0.0	2.2	18.0	N/A	N/A	N/A		
GP-3	9:10	0.0	2.1	17.8	N/A	N/A	N/A	I	N. O. C.
GP-4	9:50	0.0	3.3	15.5	N/A	N/A	N/A		Non-Compliance Probe
GP-4R GP-5	10:00	0.0	2.8 0.0	16.6	N/A N/A	N/A N/A	N/A N/A	Compliance F	rope
GP-5 GP-6	10:15 8:00	0.0	2.8	19.9 17.5	N/A N/A	N/A N/A	N/A N/A		
GP-8	8:50	0.0	0.0	17.5	N/A N/A	N/A N/A	N/A N/A		
ADDITIONAL			0.0	10.0	14/74	11//1	13/73	1	
NM = Not Mea									
N/A = Not Ava	lable								

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

Inspectors Names:		Garrett Rose & Gio Amato	
Date:	8/31/15		Time On Site 7:00 – 15:00
Weather:	Sunny		Temperature: 90° F

Signature: <u>Larrett</u> Rose

Trouble Signs	CORRECTIVE MEASURES						
a. Gate b. Fence b. Fence c. Locks d. Signs Missing, Unreadable 2. Cover Integrity a. Surface Features b. Slopes c. Vegetation d. Breakouts 3. Stornwater Management System a. Diversion Swales b. Catch Bassins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins f. Decenting Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion Broken, No Lock Cracked, Missing Cracked,	Date						
b. Fence c. Locks Inoperative d. Signs Missing, Unreadable 2. Cover Integrity a. Surface Features b. Slopes C. Vegetation d. Breakouts J. Stormwater Management System a. Diversion Swales c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed f. Decorate Collar d. Local Erosion Foncing Water Channels Foncing Cracked, Missing C. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Adequate None							
c. Locks d. Signs Missing, Unreadable 2. Cover Integrity a. Surface Features b. Slopes c. Vegetation d. Breakouts 3. Stormwater Management System a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion f. Catched, Missing C. Tacked, Missing C. Landfill Gas Monitoring and Collection System Mahouts and Sloughing Adequate Adequate Adequate Adequate Adequate Adequate None Adequate Adequate None Adequate Adequate Adequate Adequate None							
d. Signs Missing, Unreadable Adequate Adequate Adequate Animal Burrows, Other Holes, Cracks b. Slopes c. Vegetation d. Breakouts Brushes/Tree Growth, Bare Spots Washouts and Discoloration Adequate Adequate Adequate Adequate Adequate Adequate Adequate None None None None Adequate Adequate Adequate Adequate Adequate Adequate Adequate None None Adequate Adequate Adequate Adequate None Adequate None Adequate None None Adequate None Adequate Adequate Adequate None Adequate None None None None Adequate							
2. Cover Integrity a. Surface Features b. Slopes c. Vegetation d. Breakouts 3. Stormwater Management System a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed f. Detention Basins f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed f. Detention Basins f. Detention Basins f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed f. Detention Basins f. De							
a. Surface Features b. Slopes C. Vegetation d. Breakouts 3. Stormwater Management System a. Diversion Swales b. Catch Basins C. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing C. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Animal Burrows, Other Holes, Cracks Washouts and Sloughing Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Sloughing Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Sloughing Broken, Botosion Adequate None None None None None Adequate Adequate Adequate None							
b. Slopes c. Vegetation d. Breakouts Brushes/Tree Growth, Bare Spots Washouts and Discoloration Adequate a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Washouts and Sloughing Brushes/Tree Growth, Bare Spots Washouts and Sloughing Adequate Adequate None							
c. Vegetation d. Brushes/Tree Growth, Bare Spots Washouts and Discoloration 3. Stormwater Management System a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins filling with Sediment, Riprap Dutlets Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed f. Detention Basins for Detention							
d. Breakouts Washouts and Discoloration Adequate a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins Adequate 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion Shape Adequate None							
3. Stormwater Management System a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins filling with Sediment, Riprap Lining Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed f. Detention Basins filling with Sediment, Riprap Outlets Disturbed for Detective Casing c. Concrete Collar d. Local Erosion for Cracked, Missing Ponding, Water Channels Adequate Adequate None None None							
a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Ponding Water, Filling and Sediment Filling with Sediment, Blocked by Debris Filling with Sediment Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate None None None							
a. Diversion Swales b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Ponding Water, Filling and Sediment Filling with Sediment, Blocked by Debris Filling with Sediment Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate None None None							
b. Catch Basins c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Filling with Sediment, Blocked by Debris Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate None Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate None							
c. Stilling Wells d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Filling with Sediment, Riprap Lining Disturbed Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate None Adequate Adequate Adequate None							
d. Perimeter Channels e. Culverts f. Detention Basins 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Filling with Sediment, Riprap Lining Disturbed Filling with Sediment, Riprap Outlets Disturbed Adequate None Adequate Adequate Adequate Adequate							
e. Culverts f. Detention Basins Blocked, Damaged, Riprap Outlets Disturbed Filling with Sediment, Riprap Outlets Disturbed 4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion Cracked, Missing Ponding, Water Channels Adequate Adequate Adequate Adequate None							
f. Detention Basins Filling with Sediment, Riprap Outlets Disturbed Adequate Adequate Adequate None Broken, No Lock Cracked, Missing C. Concrete Collar Collection System Adequate Adequate Adequate Adequate None							
4. Groundwater Monitoring Wells a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion 5. Landfill Gas Monitoring and Collection System Adequate None None None None							
a. Locking Cap b. Protective Casing c. Concrete Collar d. Local Erosion S. Landfill Gas Monitoring and Collection System Cracked, Missing Ponding, Water Channels Adequate None None None	-						
b. Protective Casing Cracked, Missing Cracked, Missing Cracked, Missing Cracked, Missing Cracked, Missing Ponding, Water Channels 5. Landfill Gas Monitoring and Collection System Adequate None							
c. Concrete Collar d. Local Erosion Cracked, Missing Ponding, Water Channels 5. Landfill Gas Monitoring and Collection System Adequate None							
d. Local Erosion Ponding, Water Channels 5. Landfill Gas Monitoring and Collection System Adequate None							
5. Landfill Gas Monitoring and Collection System Adequate None							
Collection System None							
·							
a LFG Extraction Wells Physical Damage to Casing Wellhead Sampling Port							
a. El S Estacolor (1916) I rigidal Daniago to Casing, (1916) anipinig i ort							
b. LFG Migration Probes Physical Damage to Casing							
c. Control Panel Recording Paper and Pens Empty							
6. Permanent Monuments Adequate							
a. Bench Marks Tilting/Heaving None							
b. Settlement Monuments Tilting /Heaving							
COMMENTS: Refer to cover letter for the status of additional system upgrades and repairs scheduled for implementation.							



April 12, 2016

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site

Quarterly Progress Report - September 2015 thru December 2015

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between September 1, 2015 and December 31, 2015 by Woodard & Curran. As discussed in the previous monthly report and in a letter submitted to USEPA on May 26, 2015, Request to Modify Gas Monitoring and Wellfield Tuning Frequency, Woodard & Curran proposed that gas probe monitoring and wellfield tuning be reduced from monthly to quarterly monitoring. In an email dated September 10, 2015, USEPA approved the request to Modify Gas Monitoring and Wellfield Tuning Frequency from monthly to quarterly monitoring. Based on this approval the first quarterly monitoring event was completed on November 12, 2015. The quarterly monitoring events for 2016 are tentatively scheduled to be completed in March, June, September, and December.

Summary of Monthly Activities

As discussed in previous Monthly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was re-configured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period September 1, 2015 thru December 31, 2015:

- Between September 4, 2015 and September 8, 2015 the flare operated.
- Between September 11, 2015 and September 15, 2015 the flare operated.
- Between September 18, 2015 and September 22, 2015 the flare operated.
- Between September 25, 2015 and September 29, 2015 the flare operated.
- Between October 2, 2015 and October 7, 2015 the flare operated.
- Between October 9, 2015 and October 14, 2015 the flare operated.
- Between October 17, 2015 and October 21, 2015 the flare operated.
- Between October 24, 2015 and October 28, 2015 the flare operated.
- Between November 1, 2015 and November 6, 2015 the flare operated.
- Between November 9 and November 14, 2015 the flare operated.
- Between November 18, 2015 and November 23, 2015 the flare operated.
- Between December 7, 2015 and December 11, 2015 the flare operated.
- Between December 14, 2015 and December 18, 2015 the flare operated.



On October 14, 2015, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 2,000 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.

On December 7, 2015, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on Site to remove 2,000 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.

Woodard & Curran conducted the semi-annual flare inspection on December 7, 2015. The flare (flame arrestor, burners, flame detector lens, and IRIS output), air compressor, knockout sump and blowers #1 and #2 are operating properly. Cleaning of the flame arrestor was performed to remove minor dust and dirt in the housing and arrestor plates.

The quarterly site visit was conducted on November 12, 2015. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1R, GP-2, GP-3, GP-4R, GP-5, GP-6 and GP-8. As discussed in previous monthly reports Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in November 2015. The compliance points for these locations have been replaced with GP-1R and GP-4R.

On November 12, 2015, the annual inlet flare sample was collected and submitted for laboratory analysis of volatile organic compounds (VOCs) using EPA Method TO-15. The sample was collected and submitted to Con-Test Laboratories of East Long Meadow, Massachusetts for analysis. Woodard & Curran will be submitting the results of this testing under a separate cover that will compare the 2015 results to the 2014 inlet flare sample results.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.

A summary of pertinent information includes the following:

- The flare inlet flow rate, inlet methane content and combustion temperature measured 461 cubic feet per minute (cfm), 26.9% and 1812°F respectively.
- The methane levels in all compliance probes were within acceptable limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any questions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures



cc: Karen L. Douglas, Corning, Inc.
Angela Knight, Corning, Inc.
Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
Paul Kulpa, RIDEM
David Moreira, Waste Management

DATE:	11/12/2015		WEATHER	CONDITION	S:	Cloudy			MONITORED BY: S. Driscoll	
TEMP:	46		SYSTEM C	ONDITION:		ON	Line		BAROMETRIC PRESSURE START: 29.68	
Flare Inlet Tem	p:	1812	Flare Outle	t Temp:	1083				BAROMETRIC PRESSURE END: 29.47	
SYSTEM LEVE	LS								FLOW (cfm): 461	
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP.	PRESSURE ("H2O)	VALVE POSITION (BEFORE)	VALVE POSITION (AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)	
FLARE	7:05	26.9	28.4	1.2	NA	1.8	(BLFORE)	(AFTER)	COMMENTS (OBSERVATIONS & ACTIONS TAKEN)	
BLOWER	7:10	27.0	28.0	1.9	66.0	-15.00				
W-1	9:40	62.4	34.8	1.3	50	-5.2	75%	75%		
W-2	9:30	50.7	35.6	0.5	70	-3.6	100%	100%		
W-3	9:20	25.2	19.4	6.9	NA	-2.8	0%	0%		
W-4	9:10	0.0	0.5	20.6	46	-4.5	0%	0%		
W-5	9:00	0.0	0.1	20.4	38	-2.5	0%	0%		
W-6	8:50	3.4	30.8	0.3	48	0	0%	0%		
W-7	8:40	55.0	39.6	0.9	38	-5.0	25%	25%		
W-8	8:30	20.6	25.8	0.7	70	-8.0	100%	100%		
W-9	8:20	23.8	27.7	0.0	78	-10.5	100%	100%		
W-10	8:10	35.4	31.7	0.0	80	-8.5	100%	100%		
W-11	8:00	29.5	30.3	0.0	NA	-9.0	100%	100%		
W-12	7:50	27.0	30.7	0.0	80	-7.0	100%	100%		
W-13	7:40	42.6	35.6	0.0	50	-10.0	100%	100%		
W-14	10:20	0.3	0.9	20.2	40	-3.6	0%	0%		
W-15	10:10	41.5	34.4	0.0	94	-5.0	100%	100%		
W-16	10:00	21.0	15.8	11.7	48	-5.2	100%	100%		
W-17	9:50	28.7	25.6	1.6	NA	-5.0	50%	50%		
W-18	7:30	58.8	40.0	0.0	66	-7.0	100%	100%		
Building	7:00	0.0	0.0	20.8	50.0					
COMPLIANCE	PROBE LEV	'ELS			NOTE: A	DDITIONAL	. COMMENT	SPACE ON	I BACK	
WELL NO.	TIME	CH4 (%)	CO2 (%)	O2 (%)	TEMP. (°F)	PRESSURE ("H2O)	VALVE POSITION (%)) COMMENTS (OBSERVATIONS & ACTIONS TAKEN)		
GP-1R	13:45	0.0	13.1	7.1	N/A	N/A	N/A			
GP-2	12:50	0.0	2.7	17.4	N/A	N/A	N/A			
GP-3	13:30	0.0	1.6	18.5	N/A	N/A	N/A			
GP-4R	14:05	0.0	3.0	17.6	N/A	N/A	N/A			
GP-5	14:30	0.0	4.7	15.5	N/A	N/A	N/A			
GP-6	12:30	0.0	2.9	17.4	N/A	N/A	N/A			
GP-8	13:15	0.0	1.0	18.5	N/A	N/A	N/A			
ADDITIONAL C										
NM = Not Meas										
N/A = Not Availa	able									

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

Inspectors N	Names: S. Driscoll	
Date:	11/12/15	Time On Site 7:00 – 15:00
Weather:	Cloudy	Temperature: 46° F
Signature:		

CORRECTIVE MEASURES						
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
1. Security System		Adequate				
a. Gate	Inoperative		Gate	Bent	None	
b. Fence	Holes					
c. Locks	Inoperative					
d. Signs	Missing, Unreadable					
2. Cover Integrity		Adequate				
a. Surface Features	Animal Burrows, Other Holes, Cracks	1			None	
b. Slopes	Washouts and Sloughing					
c. Vegetation	Brushes/Tree Growth, Bare Spots					
d. Breakouts	Washouts and Discoloration					
3. Stormwater Management System		Adequate				
a. Diversion Swales	Ponding Water, Filling and Sediment	1			None	
b. Catch Basins	Filling with Sediment, Blocked by Debris					
c. Stilling Wells	Filling with Sediment					
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed					
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed					
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed					
4. Groundwater Monitoring Wells		Adequate				
a. Locking Cap	Broken, No Lock	1			None	
b. Protective Casing	Cracked, Missing				None	
c. Concrete Collar	Cracked, Missing					
d. Local Erosion	Ponding, Water Channels					
	Toliding, water Chainels					
5. Landfill Gas Monitoring and		Adequate				
Collection System					None	
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port					
b. LFG Migration Probes	Physical Damage to Casing					
c. Control Panel	Recording Paper and Pens Empty					
6. Permanent Monuments		Adequate				
a. Bench Marks	Tilting/Heaving				None	
b. Settlement Monuments	Tilting /Heaving					
COMMENTS: Refer to cover letter	r for the status of additional system upgrades and repa	irs scheduled for i	mplementation			

Maintenance Inspection December 7, 2015

Blower #1 hour meter:

Amp	erage	Voltage		
Phase A	16.7	Phases A to B	498	
Phase B	16.0	Phases A to C	500	
Phase C	15.8	Phases B to C	503	

- Coupling between motor and blower was in good condition.
- All hardware appears to be tight and intact.

Blower #2	hour meter:	Voltage			
Amp	erage				
Phase A	16.3	Phases A to B	497		
Phase B	Phase B 15.2		499		
Phase C	15.9	Phases B to C	500		

- Coupling between motor and blower was in good condition.
- All hardware appears to be tight and intact.

Flare:

- Flare was off upon arrival. Sean Driscoll replaced the propane tank and successfully restarted the system. After all blower inspections were conducted the flare was started and left running per the schedule.
- Removed flame arrestor for inspection: clean, minimal dust/dirt in the housing and arrestor plates.
- Check burners visually. Some minimal insulation debris is laying on the burners, but not hampering operation and should blow off during normal flow.
- Wiped the flame detector lens.
- Visual inspection of stack reveals more insulation has been dislodged and there is small pieces of insulation on the caps of the burners, upper deck (top of burners) and on the floor of the stack. Some hot spot pitting can be seen on the outside of the stack.

Air compressor:

- Oil was changed.
- V-belt appeared to be in good shape and adjusted tension.
- Condensate traps were drained.

Knockout sump:

• Appears to be functioning fine.

Storage tank:

• The tank level panel display was off. Sean commented that he just pumped the tank and the gauge did not seem to be working. He is in the process of having the system changed. Someone has worked on the system since last inspection and it apparently needs more attention.

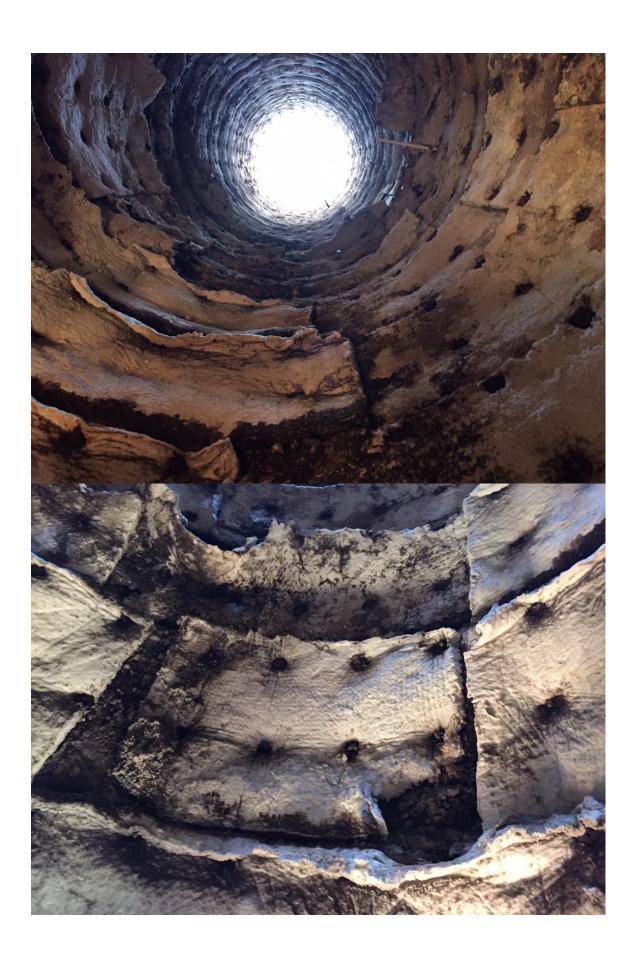
Summary:

Blowers appeared to be running fine, as is all other mechanical equipment. The flare was started and appears to be running well, however there is significantly more damage to the insulation during this inspection than what was found during the inspection last May.

Performed by:

Bill DePascale Technician 3 Woodard & Curran







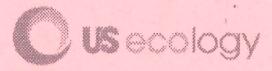
EQ Northeast, Inc. 185 Industrial Road Wrentham, MA 02093 Emergency Response #:

Phone: (508) 384-6151 Fax: (508) 384-6028 Work Order: 7247000

Reference Code: Arrival Time:

> Date: 10/12/2015 Prepared By: Wanda Tobey

	BILLING	INFORMATION	GENERATOR INFORMATION
Name: WOODARE Acct. #: 13134-99 Phone: (866) 702-6 Addr: 35 NEW EN CENTERSU ANDOVER,	371 IGLAND BUSINE	Title: Phone:	Name: FORMER L&RR LANDFILL Contact: EPA #: RID093212439 (ID: 73759) Title: Phone: (860) 883-3798 Phone: () - Addr: OFF OLD OXFORD RD. Mobile: () - NORTH SMITHFIELD, RI 02876
TEMPORE TO THE RESIDENCE TO THE CONTRACT OF TH			TSDF INFORMATION
Addr: 527 F	ID ENVIRONME PLEASANT STRE EBORO,MA 02	to I	F Contact: RICK DERBY
Manifest: TSDF Contact: RIG	CK DERBY		DF: LIQUID ENVIRONMENTAL SOLUTIONS
HM DESCRIPTION 1. Non Hazardous I Approval Code: 10 Hand. Instruct:		DOT Not RCRA Regulated, N Waste Codes: NONE	None, None, None # OF CONT. TYPE QUANTITY UNIT TT 2000 G
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Delivery	Date	Time	Explanation
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Finish Unloading:			
Leave Site:		ika mangan kanangan pangan pangan Pangan pangan panga	
Driver !	Signature	Date	Receiver Signature Date
Please com	ment on the job	so we can continue to prov	ride better service: Excellent Satisfactory Poor



BILLING INFORMATION

EQ Northeast, Inc. 185 Industrial Road Wrentham, MA 02093 Emergency Response #:

Phone: (508) 384-6151 Fax: (508) 384-6028 Work Order: 7421700 Reference Code:

Arrival Time:

GENERATOR INFORMATION

Date: 12/03/2015 Prepared By: Wanda Tobey

Auto a Elli	IGLAND BUSINI JITE 180 MA 01810	ESS Mobile: () PO / Rel:		Addr: OFF OLD OXFO NORTH SMITHFI		hone: () - lobile: () -
Addr: 527 F	ID ENVIRONME PLEASANT STR EBORO,MA 02		TSDF INFORMAT F Contact: RICK D	ERBY	EPA #: MAC300005 Phone: (508) 236-6 Fax: () -	
	aparata ner (ser aveg à Anadau espain de papera					
Manifest: 01: TSDF Contact: RI			OF: LIQUID ENVIRO dr: 527 PLEASANT ATTLEBORO,M		EPA#: MAC300 Phone: (508) 23 Fax: () -	
HM DESCRIPTION 1. Non Hazardous Approval Code: 10 Hand. Instruct:		DOT Not RCRA Regulated, Waste Codes: NONE	None, None, None			TT 2000 G
	es that this equi			e or other service to be pro		Vac Fee
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Leave Site:						
Driver	Signature	Date		Receiver Signatur	e	Date
Please com	ment on the job	so we can continue to prov	ide better service:	Excellent	Satisfactory	Poor



May 6, 2016

Ms. Anna Krasko U.S. EPA Region 1 Mail Code: OSRR07-1 5 Post Office Square – Suite 100 Boston, MA 02109-3912

Re: Landfill and Resource Recovery, Inc. Superfund Site
Quarterly Progress Report – January 2016 thru March 2016

Dear Ms. Krasko:

On behalf of the L&RR Performing Settling Defendants (Group) and pursuant to the Settlement Agreement and Consent Decree, this quarterly report summarizes site activities completed between January 1, 2016 and March 31, 2016 by Woodard & Curran. As discussed in the previous reporting, the gas probe monitoring and wellfield tuning changed from monthly to quarterly frequency. Based on this change the first quarterly monitoring event for 2016 was competed on March 15, 2016. The remaining quarterly monitoring events for 2016 are tentatively scheduled to be completed in June, September, and December.

Summary of Monthly Activities

As discussed in previous Monthly and Quarterly Progress Reports, on October 24, 2014 the flare system operation was configured to operate on a timed on-off-on cycle. The flare was programmed to operate on a 5 days on and 2 days off cycle through January 15, 2015. On January 15, 2015, the flare timer was reconfigured to operate on a 4 days on and 3 days off cycle. The following is a summary of flare operation during this reporting period January 1, 2016 thru March 31, 2016:

- Between January 4, 2016 and January 8, 2016 the flare operated.
- Between January 12, 2016 and January 16, 2016 the flare operated.
- Between January 18, 2016 and January 22, 2016 the flare operated.
- Between January 29, 2016 and February 2, 2016 the flare operated.
- Between February 24, 2016 and February 28, 2016 the flare operated.
- Between March 2, 2016 and March 6, 2016 the flare operated.
- Between March 9, 2016 and March 13, 2016 the flare operated.
- Between March 15, 2016 and March 19, 2016 the flare operated.
- Between March 22, 2016 and March 26, 2016 the flare operated.
- Between March 29, 2016 and April 2, 2016 the flare operated.

The flare was shut down for an extended period between February 2 through February 24, 2016 due to a power outage. The power was restored on February 24, 2016 and the flare was restarted, the flare has been operating as programmed since.

On March 15, 2016, U.S. Ecology (formerly EQ Environmental) of Wrentham, Massachusetts was on-Site to remove 2,733 gallons of non-hazardous condensate from the condensate storage tank. A copy of the Non-hazardous manifest is attached.



The quarterly site visit was conducted on March 15, 2016. The visit included a complete round of monitoring for gas wells W-1 through W-18 and perimeter probes GP-1R, GP-2, GP-3, GP-4R, GP-5, GP-6 and GP-8. As discussed in previous monthly reports Woodard & Curran proposed to end the monitoring perimeter probes GP-1 and GP-4 beginning in November 2015. The compliance points for these locations have been replaced with GP-1R and GP-4R.

On November 12, 2015, the annual inlet flare sample was collected and submitted for laboratory analysis of volatile organic compounds (VOCs) using EPA Method TO-15. The sample was collected and submitted to Con-Test Laboratories of East Long Meadow, Massachusetts for analysis. Woodard & Curran will be submitting the results of this testing under a separate cover that will compare the 2015 results to the 2014 inlet flare sample results.

A landfill inspection was conducted to identify any corrective measures for major landfill components that include the security system, cover integrity, stormwater management system, groundwater and gas monitoring wells, and collection system. The monitoring report and inspection log are enclosed.

A summary of pertinent information includes the following:

- The flare inlet flow rate, inlet methane content and combustion temperature measured 461 cubic feet per minute (cfm), 26.9% and 1812°F respectively.
- Methane levels in compliance probe GP-1R exceeded acceptable limits on March 15, 2016 during
 the Quarterly Inspection. During the inspection, it was discovered that gas extraction well W-11 was
 disconnected from the gas extraction piping. The extraction well was reconnected to the extraction
 system. Additional readings were collected at GP-1R on March 18, 2016 and methane levels were
 within acceptable limits. The methane levels in all other compliance probes were within acceptable
 limits.
- Methane levels in the on-site buildings were 0%.

Please let me know if you have any guestions or need additional information.

Sincerely,

WOODARD & CURRAN INC.

Alan Benevides, P.E. Senior Vice President

aab/ams

Enclosures

cc: Karen L. Douglas, Corning, Inc.
 Angela Knight, Corning, Inc.
 Roy Giarrusso, Giarrusso Norton Cooley & McGlone, PC
 Paul Kulpa, RIDEM
 David Moreira, Waste Management

Table 1 QuarterlySite Check Landfill Resource Recovery Superfund Site North Smithfield Rhode Island

3/15/2016 Date: Flare System Status: ON (ON/OFF) S. Driscoll / G. Amato Flare Inlet Temperature: 1868 (Deg F) 1175 Cloudy Rain Showers Flare Outlet Temperature: (Deg F) Weather: Flare Flow Rate: 397 (CFM)

 Propane Pressure:
 45 (PSI)

 Nitrogen Pressure:
 100 (PSI)

 Blower in Operation:
 A (A/B)

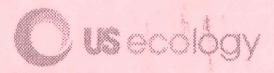
 Condensate #3 Pump:
 194589 (cycles)

Air Dryer Runtime: NM (Hours) Barometric Pressure (Start): 29.53 (In-Hg) Barometric Pressure (Start): 29.53 (In-Hg) Condensate Tank Level: 0 ____(Inches) VALVE CH4 CO2 02 Balance TEMP. PRESSURE WELL NO. TIME COMMENTS (OBSERVATIONS & ACTIONS TAKEN) ("H2O) (BEFORE) (AFTER) (%) (%) (%) (%) (°F) BUILDING 7:00 0.0 0.1 20.6 79.3 72 --------fore Wellfield Adjustments BLOWER INLET 23.2 17.4 49.2 -8.5 ---FLARE INLET 10:50 23.5 17.5 10.2 49.1 NA +2.0 ---After Wellfield Adjust BLOWER INLET FLARE INLET ------15:50 41.4 30.1 0.3 28.2 NA +2.0 Extraction Wells 11:40 55.5 33.9 0.0 10.5 50 0 75% 75% W-1 36.1 0.0 6.8 -1.0 100% W-3 12:00 65.7 33.8 0.0 0.7 0 0 0% 0% W-4 12:10 60.8 30.3 0.0 8.9 44 +0.38 0% 0% W-5 12:25 23.0 0.0 42.9 +0.6 0% 0% W-6 12:35 7.5 30.9 0.1 61.6 48 +3.0 0% 0% W-7 13:00 59.8 39.9 0.0 0.3 +0.42 25% 25% W-8 12:50 34.9 0.3 38.7 -3.0 100% 100% 26.3 80 W-9 13:45 39.8 30.0 0.0 30.6 -4.0 100% 100% W-10 13:30 -2.0 49.2 32.6 0.0 18.2 86 100% 100% W-11 14:40 35.0 26.1 0.0 39.4 80 -4.0 100% 100% Well disconnected from gas extraction line. Reconnected and continued collecting readings W-12 14:55 59.1 50 0.0 40.0 0.0 0.7 100% 100% W-13 15:10 59.3 38.1 0.0 2.5 -3.0 100% 100% W-14 11:20 21.0 8.8 6.4 63.8 40 -1.2 0% 0% W-15 15:30 62.0 38.0 0.0 84 100% 100% 13:15 54.1 35.9 0.0 10.0 92 -1.4 100% 100% W-16 W-17 11:30 37.0 24.4 38.6 0 50% 50% W-18 56.7 -0.6 11:10 38.2 0.6 3.6 50 100% 100% Compliance Gas Probes GP-1R Additional readings collected in Marhc 18, 2016 see notes below. 8:00 3.6 19.8 0.0 76.5 __ __ 0.0 2.4 19.5 78.2 GP-3 __ __ 10:15 0.0 1.3 20.4 78.3 GP-4R 7:40 0.1 12.4 2.0 85.6 GP-5 7:30 0.0 2.6 18.5 78.7 --------GP-6 9:15 0.0 2.3 19.1 78.5 GP-8 0.0 0.1 21.5 78.3 __ Additional Comments NM = Not Measured. W-11 was disconnected from the gas extraction line within the well head contol box. Connection was temporarly repaired as confined space entry is required to make permenant repair Additional Reading collected to confirm temporary repair working: (3/18/16) **GP-1R**: CH4 = 0.4%; CO2 = 9.3%; O2 = 10.3%; Bal = 80%

TABLE 2-1 L&RR SUPERFUND SITE INSPECTION LOG

Inspectors I	Names: S. Driscoll / G. Amato	
Date:	3/15/16	Time On Site 7:00 – 16:00
Weather: _	Cloudy Rain Showers	Temperature: 45° 1
Signature:		

	CORRECTIVE	MEASURES				
Feature	Trouble Signs	Status (Adequate or Inadequate)	Problem Location	Description of Problem	Action	Date
1. Security System		Adequate				
a. Gate	Inoperative	*	Gate	Bent	None	
b. Fence	Holes					
c. Locks	Inoperative					
d. Signs	Missing, Unreadable					
2. Cover Integrity		Adequate				
a. Surface Features	Animal Burrows, Other Holes, Cracks	1			None	
b. Slopes	Washouts and Sloughing					
c. Vegetation	Brushes/Tree Growth, Bare Spots					
d. Breakouts	Washouts and Discoloration					
3. Stormwater Management System		Adequate				
a. Diversion Swales	Ponding Water, Filling and Sediment	1			None	
b. Catch Basins	Filling with Sediment, Blocked by Debris					
c. Stilling Wells	Filling with Sediment					
d. Perimeter Channels	Filling with Sediment, Riprap Lining Disturbed					
e. Culverts	Blocked, Damaged, Riprap Outlets Disturbed					
f. Detention Basins	Filling with Sediment, Riprap Outlets Disturbed					
4. Groundwater Monitoring Wells	Timing with Sediment, Reprup Outlets Disturbed	Adequate				
a. Locking Cap	Durlan Na Laula	Aucquate			3.7	
b. Protective Casing	Broken, No Lock				None	
c. Concrete Collar	Cracked, Missing					
d. Local Erosion	Cracked, Missing Ponding, Water Channels					
a. Eour Erosion	Ponding, water Channels					
5. Landfill Gas Monitoring and		Adequate				
Collection System					None	
a. LFG Extraction Wells	Physical Damage to Casing, Wellhead, Sampling Port					
b. LFG Migration Probes	Physical Damage to Casing					
c. Control Panel	Recording Paper and Pens Empty					
6. Permanent Monuments		Adequate				
a. Bench Marks	Tilting/Heaving				None	
b. Settlement Monuments	Tilting /Heaving					



EQ Northeast, Inc. 185 Industrial Road Wrentham, MA 02093 Emergency Response #:

Phone: (508) 384-6151 Fax: (508) 384-6028 Work Order: 7761200

Reference Code:

Arrival Time:

Date: 03/11/2016 Prepared By: Wanda Tobey

	BILLING	INFORMATION		GEN	VERATOR INFOR	MATION
Name: WOODAR Acct. #: 13134-99 Phone: (866) 702- Addr: 35 NEW E CENTERS ANDOVER	6371 NGLAND BUSIN	Title: Phone:		Name: FORMER L&RF EPA#: RID093212439 Phone: (401) 578-9976 Addr: OFF OLD OXFO NORTH SMITHI	(ID: 73759)	Contact: Title: Phone: () - Mobile: () -
COMMENSATION OF THE PROPERTY O	A CONTRACTOR OF THE PARTY OF TH	AND THE PARTY OF T	TSDF INFORMA	TION		
Addr: 441	DEBE T&R OF S REAR CANTON DUGHTON,MA 0	STREET Conta	F Contact: Maure act Phone: (888)		EPA#: MAD062 Phone: (781) 29 Fax: (781) 34	7-3530
Manifest:		TSI	F: TRADEBE T&	R OF STOUGHTON, LLC	EPA#: MAD	062179890
TSDF Contact: M	laureen/Brian	The state of the s	dr: 441 REAR CA	NTON STREET	Phone: (781)	297-3530
Contact Phone: (8	188) 276-0886		STOUGHTON	I,MA 02072	Fax: (781)	CARD - PROCESS - Burget Married And Assessment Artist - Berling and Assessment - As
HM DESCRIPTION					# OF CONT	
	Liquid Waste, No 000121105 (7456)	t DOT Not RCRA Regulated, i 3) Waste Codes: NONE	None, None, None		/	тт х2733 с
EQUIPMENT ACKNO	NA! EDGMENT					
		inment is suitable for the tr	anenortation stora	ige or other service to be pr	rovided	
Tractor # Tra		nker #408 Roll-Off Box 3/15/16 Date		process of the same of the sam	Picked_up #	Vac Fee
Pickup	Date	Time	Explanation	Pund Notac	Famildies	osatul
Arrive at Shipper: Start Loading: Finish Loading: Leave Site:	3/15/16	8:00 8:30 9:40 9:50		to VECC		
	AND CONDITIONS O GOVERNING CLASSE		MARKED AND LABELS	THAT THE ABOVE NAMED MATERIA ED AND ARE IN PROPER CONDITION THONS OF THE DEPARTMENT OF	IN FOR TRANSPORTAT	ASSIFIED, DESCRIBED, PACKAGED, TON ACCORDING TO THE
Fh. 1.	0:	17-6-	and the second of the second o	0-4-6-01-4		Parka
	Signature	Date		Customer Signat	ure	Date
Delivery	Date	Time	Explanation			
Arrive at TSDF:						
Start Unloading:						
Finish Unloading:						
Leave Site:						
Driver	Signature	Date		Receiver Signate	ire	Date
		so we can continue to prov	ide better service:	processing to the second secon	Satisfacto	



APPENDIX B: LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION SUMMARIES



APPENDIX B: LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION SUMMARIES



ANALYTICAL REPORT

Lab Number: L1609862

Client: Woodard & Curran

40 Shattuck Road

Suite 110

Andover, MA 01810

ATTN: Samantha Olney Phone: (978) 557-8150

Project Name: L&RR
Project Number: 224263
Report Date: 04/12/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



L1609862

04/12/16

Project Name:L&RRLab Number:Project Number:224263Report Date:

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1609862-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/16 08:52	04/05/16
L1609862-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/16 07:47	04/05/16
L1609862-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1609862-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/16 15:27	04/05/16
L1609862-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/16 14:22	04/05/16
L1609862-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/16 09:52	04/05/16
L1609862-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/16 12:42	04/05/16
L1609862-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/16 14:45	04/05/16
L1609862-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/16 11:50	04/05/16
L1609862-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/16 13:18	04/05/16
L1609862-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/16 13:28	04/05/16
L1609862-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/16 13:42	04/05/16
L1609862-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/16 10:30	04/05/16
L1609862-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1609862-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/16 13:55	04/05/16



Project Name:L&RRLab Number:L1609862Project Number:224263Report Date:04/12/16

Case Narrative

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

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

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

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

HOLD POLICY

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

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



Project Name:L&RRLab Number:L1609862Project Number:224263Report Date:04/12/16

Case Narrative (continued)

Report Submission

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

BOD, 5 day

L1609862-15: The Equipment Blank has a concentration above the reporting limit; however, re-analysis could not be performed due to expired holding time.

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

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 04/12/16



INORGANICS & MISCELLANEOUS



Project Name: Lab Number: L&RR L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 08:52 L1609862-01

MW-201 Client ID: Date Received: 04/05/16 NORTH SMITHFIELD, RI

Not Specified Sample Location: Field Prep:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough La	b								
Nitrogen, Ammonia	ND		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:25	44,350.1	AT
Chemical Oxygen Demand	5.7	J	mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:50	44,410.4	SD
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - Wes	tborough	Lab							
Chloride	2.47		mg/l	0.500	0.054	1	-	04/09/16 05:22	44,300.0	AU



Project Name: Lab Number: L&RR L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-02 Date Collected: 04/05/16 07:47

MW-202 Client ID: Date Received: 04/05/16 NORTH SMITHFIELD, RI Not Specified Sample Location: Field Prep:

Water Matrix:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough La	ab								
Nitrogen, Ammonia	ND		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:25	44,350.1	AT
Chemical Oxygen Demand	10.	J	mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:50	44,410.4	SD
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - We	stborough	Lab							
Chloride	85.5		mg/l	5.00	0.541	10	-	04/11/16 19:07	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

 Lab ID:
 L1609862-03
 Date Collected:
 04/05/16 11:12

 Client ID:
 MW-102A
 Date Received:
 04/05/16

Client ID: MW-102A Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough Lat)								
Nitrogen, Ammonia	0.515		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:26	44,350.1	AT
Chemical Oxygen Demand	22.		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:50	44,410.4	SD
BOD, 5 day	8.5		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	graphy - West	borough	Lab							
Chloride	1.91		mg/l	0.500	0.054	1	-	04/09/16 05:46	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

 Lab ID:
 L1609862-04
 Date Collected:
 04/05/16 15:27

 Client ID:
 MW-103A
 Date Received:
 04/05/16

Client ID: MW-103A Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough La	ıb								
Nitrogen, Ammonia	0.031	J	mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:30	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:50	44,410.4	SD
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	graphy - Wes	stborough	Lab							
Chloride	3.53		mg/l	0.500	0.054	1	-	04/09/16 05:58	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

 Lab ID:
 L1609862-05
 Date Collected:
 04/05/16 14:22

 Client ID:
 MW-104A
 Date Received:
 04/05/16

Client ID: MW-104A Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough Lab									
Nitrogen, Ammonia	11.0		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:31	44,350.1	AT
Chemical Oxygen Demand	56.		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:51	44,410.4	SD
BOD, 5 day	37.		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - Westl	borough	Lab							
Chloride	57.9		mg/l	5.00	0.541	10	-	04/11/16 19:19	44,300.0	AU



04/05/16 09:52

Date Collected:

Project Name: Lab Number: L&RR L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-06

CW-5B Client ID:

Date Received: 04/05/16 NORTH SMITHFIELD, RI Not Specified Sample Location: Field Prep:

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - West	tborough Lal	b								
Nitrogen, Ammonia	0.066	J	mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:31	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:51	44,410.4	SD
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - Wes	tborough	Lab							
Chloride	1.86		mg/l	0.500	0.054	1	-	04/09/16 06:46	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-07

Client ID: CW-7B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 12:42

Date Received: 04/05/16
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough La	ab								
Nitrogen, Ammonia	0.033	J	mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:34	44,350.1	AT
Chemical Oxygen Demand	8.1	J	mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:55	44,410.4	SD
BOD, 5 day	ND		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - Wes	stborough	Lab							
Chloride	2.50		mg/l	0.500	0.054	1	-	04/09/16 07:22	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-08

Client ID: SW-5

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 14:45

Date Received: 04/05/16

Field Prep: Not Specified

Parameter	Result Q	ualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chroma	atography - Westbo	rough Lab							
Chloride	2.90	mg/l	0.500	0.054	1	-	04/09/16 07:34	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-09

Client ID: SW-8

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 11:50

Date Received: 04/05/16 Field Prep: Not Specified

Parameter	Result Qua	lifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chroma	tography - Westboro	ugh Lab							
Chloride	10.2	mg/l	0.500	0.054	1	-	04/09/16 07:46	44,300.0	AU



Project Name: Lab Number: L&RR L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-10

SW-10 Client ID:

NORTH SMITHFIELD, RI Sample Location:

Matrix: Water Date Collected: 04/05/16 13:18

Date Received: 04/05/16 Not Specified Field Prep:

Parameter	Result 0	Qualifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chromato	graphy - Westbo	orough Lab							
Chloride	16.6	mg/l	0.500	0.054	1	-	04/09/16 07:58	44,300.0	AU



Project Name: Lab Number: L&RR L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-11 Date Collected: 04/05/16 13:28

SW-16 Client ID: Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Not Specified Field Prep:

Matrix: Water

Parameter	Result Qu	alifier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chron	natography - Westbord	ough Lab							
Chloride	7.33	mg/l	0.500	0.054	1	-	04/09/16 08:10	44,300.0	AU



04/05/16 13:42

Date Collected:

Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-12

Client ID: LCH-3 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

. Matrix: Water

Analytical Method **Dilution** Date Date Factor Prepared Analyzed RL MDL **Parameter** Result Qualifier Units **Analyst** Anions by Ion Chromatography - Westborough Lab 1.45 mg/l 0.500 0.054 1 04/09/16 08:22 44,300.0 ΑU



04/05/16 10:30

Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-13 Date Collected:

Client ID: LCH-5 Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water

Parameter	Result Quali	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Anions by Ion Chrom	atography - Westborou	igh Lab							
Chloride	1.86	mg/l	0.500	0.054	1	-	04/09/16 08:34	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609862-14

Client ID: DUP-1

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 11:12

Date Received: 04/05/16 Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough Lab)								
Nitrogen, Ammonia	0.471		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:35	44,350.1	AT
Chemical Oxygen Demand	20.		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:56	44,410.4	SD
BOD, 5 day	9.4		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - West	borough	Lab							
Chloride	1.75		mg/l	0.500	0.054	1	-	04/09/16 08:46	44,300.0	AU



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

 Lab ID:
 L1609862-15
 Date Collected:
 04/05/16 13:55

 Client ID:
 EQUIPMENT BLANK
 Date Received:
 04/05/16

Client ID: EQUIPMENT BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	tborough Lab)								
Nitrogen, Ammonia	ND		mg/l	0.075	0.028	1	04/08/16 11:59	04/08/16 23:36	44,350.1	AT
Chemical Oxygen Demand	ND		mg/l	20	3.5	1	04/11/16 10:20	04/11/16 13:56	44,410.4	SD
BOD, 5 day	2.5		mg/l	2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
Anions by Ion Chromatog	raphy - West	borough	Lab							
Chloride	ND		mg/l	0.500	0.054	1	-	04/09/16 08:58	44,300.0	AU



Project Name: L&RR Project Number: 224263

Lab Number: L1609862 Report Date:

04/12/16

Method Blank Analysis Batch Quality Control

Parameter	Result Qua	alifier Units	s RL	MDL	Dilutior Factor		Date Analyzed	Analytical Method	Analyst
General Chemistry - We	stborough Lab f	or sample(s)	01-07,14	-15 Batc	h: WG88	30740-1			
BOD, 5 day	ND	mg	/l 2.0	NA	1	04/06/16 03:40	04/10/16 21:40	121,5210B	TA
General Chemistry - We	stborough Lab f	or sample(s)	: 01-07,14	-15 Batc	h: WG88	31728-1			
Nitrogen, Ammonia	ND	mg	/l 0.075	0.028	1	04/08/16 11:59	04/08/16 23:08	44,350.1	AT
General Chemistry - We	stborough Lab f	or sample(s)	: 01-07,14	-15 Batc	h: WG88	32254-1			
Chemical Oxygen Demand	ND	mg	/l 20	3.5	1	04/11/16 10:20	04/11/16 13:47	44,410.4	SD
Anions by Ion Chromato	graphy - Westbo	rough Lab fo	or sample(s	s): 01,03-	04,06-15	Batch: WG88	32521-1		
Chloride	ND	mg	/l 0.500	0.054	1	•	04/09/16 04:58	44,300.0	AU
Anions by Ion Chromato	graphy - Westbo	rough Lab fo	or sample(s	s): 02,05	Batch:	WG882582-1			
Chloride	ND	mg	ı/I 0.500	0.054	1	-	04/11/16 17:29	44,300.0	AU



Lab Control Sample Analysis Batch Quality Control

Project Name: L&RR **Project Number:**

224263

Lab Number:

L1609862

Report Date:

04/12/16

Parameter	LCS %Recovery		LCSD Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab	-		-		· -	=	Quui	
Contract Charmony Westserbugh Las	7.0000iatod odmpio(o)	. 01 07,11 10	Daton. Wood	07 10 2				
BOD, 5 day	104		-		85-115	-		20
General Chemistry - Westborough Lab	Associated sample(s)	: 01-07,14-15	Batch: WG88	31728-2				
Nitrogen, Ammonia	94		-		80-120	-		20
General Chemistry - Westborough Lab	Associated sample(s)	: 01-07,14-15	Batch: WG88	32254-2				
Chemical Oxygen Demand	103		-		95-105	-		
Anions by Ion Chromatography - Westb	orough Lab Associate	ed sample(s): 0	1,03-04,06-15	Batch	: WG882521-2			
Chloride	95		-		90-110	-		
Anions by Ion Chromatography - Westb	orough Lab Associate	ed sample(s): 0	02,05 Batch:	WG8825	82-2			
Chloride	98		-		90-110	-		



Matrix Spike Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609862

Report Date:

04/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Reco		Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westboroug	h Lab Asso	ciated sampl	e(s): 01-07	7,14-15	QC E	Batch ID:	WG880740	0-4 QC Sar	mple: L	1609862-06	Client	ID: (CW-5B
BOD, 5 day	ND	100	110		107		-	-		50-145	-		35
General Chemistry - Westboroug	h Lab Asso	ciated sampl	e(s): 01-07	7,14-15	QC E	Batch ID:	WG881728	3-4 QC Sar	mple: L	1609862-06	Client	ID: (CW-5B
Nitrogen, Ammonia	0.066J	4	3.70		92		-	-		80-120	-		20
General Chemistry - Westboroug	h Lab Asso	ciated sampl	e(s): 01-07	7 ,14-15	QC E	Batch ID:	WG882254	-3 QC Sar	mple: L	1609862-06	Client	ID: (CW-5B
Chemical Oxygen Demand	ND	238	260		109		-	-		80-120	-		20
Anions by Ion Chromatography - L1609862-06 Client ID: CW-5E		gh Lab Asso	ciated sam	ple(s): 0	1,03-0	4,06-15	QC Batch	ID: WG8825	521-3 \	NG882521-4	QC S	ample	ə:
Chloride	1.86	4	5.93		102		5.92	102		40-151	0		18
Anions by Ion Chromatography - Client ID: MS Sample	Westborou	gh Lab Asso	ciated sam	ple(s): 0	2,05	QC Bat	ch ID: WG8	82582-3 WG	88258	2-4 QC Sam	nple: L1	6097	70-07
Chloride	1980	400	2340		90		2340	89		40-151	1		18

Lab Duplicate Analysis Batch Quality Control

Project Name: L&RR Project Number: 224263

Lab Number:

L1609862

Report Date:

04/12/16

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual F	RPD Limits
General Chemistry - Westborough Lab	Associated sample(s): 01-07,14-1	15 QC Batch ID: WG880740-3	QC Sample:	L1609862	2-06 Client II	D: CW-5B
BOD, 5 day	ND	ND	mg/l	NC		35
General Chemistry - Westborough Lab	Associated sample(s): 01-07,14-1	15 QC Batch ID: WG881728-3	QC Sample:	L1609862	2-06 Client II	D: CW-5B
Nitrogen, Ammonia	0.066J	0.051J	mg/l	NC		20
General Chemistry - Westborough Lab	Associated sample(s): 01-07,14-1	5 QC Batch ID: WG882254-4	QC Sample:	L1609862	2-06 Client II	D: CW-5B
Chemical Oxygen Demand	ND	5.7J	mg/l	NC		20



Project Name:L&RRLab Number:L1609862Project Number:224263Report Date:04/12/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal Cooler

A Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1609862-01A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-01B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-02A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-02B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-03A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-03B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-04A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-04B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-05A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-05B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-06A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-06A1	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-06A2	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-06B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-06B1	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-06B2	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-07A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-07B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-08A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-09A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-10A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-11A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-12A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-13A	Plastic 60ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28)
L1609862-14A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-14B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)
L1609862-15A	Plastic 500ml H2SO4 preserved	Α	<2	3.4	Υ	Absent	COD-410(28),NH3-350(28)
L1609862-15B	Plastic 950ml unpreserved	Α	7	3.4	Υ	Absent	CL-300(28),BOD-5210(2)



Project Name:L&RRLab Number:L1609862Project Number:224263Report Date:04/12/16

GLOSSARY

Acronyms

EPA

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of

PAHs using Solid-Phase Microextraction (SPME).

- Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes

or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

TIC

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: DU Report with 'J' Qualifiers



Project Name:L&RRLab Number:L1609862Project Number:224263Report Date:04/12/16

Data Qualifiers

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: L&RR Lab Number: L1609862

Project Number: 224263 Report Date: 04/12/16

REFERENCES

Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

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

LIMITATION OF LIABILITIES

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

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



Published Date: 2/3/2016 10:23:10 AM

ID No.:17873

Revision 6

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Certification Information

Page 1 of 1

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

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate

(soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-

Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols EPA 9251: NPW: Chloride SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids EPA 1631E: SCM: Mercury EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: 8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A: Lead; 8270D: bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; EPA 200.7: Ba,Be,Ca,Cd,Cr,Cu,Na; EPA 245.1: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

	CHAIN OF (CUSTO	DY	PAGE 1 OF	2	Date	e Rec'd	in Lab	4/	50	16			ALF	PHA J	ob #:	1	1609862	
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Client Information		Project	Location	n: North Smi	thfield RI		Stat	e/Fed F	rogran	,					Crite	ila		-26		
Client: Woodard & 0		Project	#: 2242	63															DENCE PROTOCO	DLS
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		- I		ug/L.		1	Chloride 300.0	Ammonia		0 41										
ALPHA Lab ID (Lab Use Only)	Sample ID		Colle	ection Time	Sample Matrix	Sampler's Initials	5	Am	BOD	000									Sample Specific Comments	
ng(F)			5-(6			-		· 	<u> </u>	ПП				i T	<u> </u>	· T	<u>.</u>	<u> </u>	I	Τ,
A 1204 11	SW-16		2.10	1328	GW	RM		H		H	H	H	H	H	H	H	H	十一		1
:12	LCH-3		1	1030	GW GW	RM		$\dagger \Box$	\Box	目				$\dagger \Box$	一					1
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ر ما	CW-5B MS			952	GW	RM			M	\boxtimes										2
-06	CW-5B MSD			952	GW	RM														2,
,15	EQUIPMENT BLANK	1	<u> </u>	1355	GW	RM					Ц				Ц		Ц			2_
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PLEASE ANSWER C	QUESTIONS ABOVE!					ontainer Type Preservative	-	_	-			-	-	-	-	_	-	-	Please print clearly, legib and completely Sample	oly
IS YOUR	PROJECT			Relin	quished By:		Di	ate/Tim	e	Received By:				Date/Time			ne	not be logged in and turnaround time clock will		
The wanter on second consequences with	or CT RCP?		_	421 n			451		26.0		M	_	W		4/5/16 1710			24-327	start until any ambiguities resolved. All samples	s are
FORM NO: 01-01(I) (rev. 5-JAN-12)				M														submitted are subject to Alpha's Payment Terms.		
2 50																				

L&RR PROJECT SUMMARY

Alpha Analytical Job Number: L1609862

Validation was performed on the inorganic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" August 2014; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1609862	Cl, NH3, COD, BOD

Cl=Chloride by EPA Method 300.0; NH3=Ammonia by EPA Method 350.1; COD=Chemical Oxygen Demand by EPA Method 410.4; BOD=Biological Oxygen Demand by SM 5210B

Field Sample ID	Accutest Laboratory ID
MW-201	L1609862-01
MW-202	L1609862-02
MW-102A	L1609862-03
MW-103A	L1609862-04
MW-104A	L1609862-05
CW-5B	L1609862-06
CW-7B	L1609862-07
SW-5	L1609862-08
SW-8	L1609862-09
SW-10	L1609862-10
SW-16	L1609862-11
LCH-3	L1609862-12
LCH-5	L1609862-13
DUP-1	L1609862-14
EQUIPMENT BLANK	L1609862-15

The data were evaluated and were based on the following parameters:

Inorganics

- Holding times
- Sample preservation
- Blank results
- Matrix spike and matrix spike duplicate results
- Laboratory duplicate results
- Field duplicates
- Laboratory control sample results

L&RR PROJECT SUMMARY

Alpha Analytical Job Number: L1609862

Inorganics

Holding Times

All Cl, NH3, COD, and BOD samples were digested and/or analyzed within technical holding times. No qualifications were applied to the data.

Sample Preservation

Samples were received at 3.4 degrees Celsius. No qualifications were applied to the data.

Blank Results

All Cl, NH3, COD, and BOD laboratory blanks were non-detect (ND). No qualifications were applied to the data.

Cl, NH3, COD, and BOD field blank sample, EQUIPMENT BLANK (L1609862-15), was ND for all target analytes with the exception of BOD (2.5 mg/L). Since the samples were ND for BOD or the sample concentration was greater than the equipment blank concentration, no qualifications were applied to the data.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The Cl, NH3, COD, and BOD MS and/or MSD performed on sample CW-5B (L1609862-06) met acceptance criteria. No qualifications were applied to the data.

Laboratory Duplicate Results

The NH3, COD, and BOD laboratory duplicate performed on sample CW-5B (L1609862-06) met acceptance criteria. No qualifications were applied to the data.

Field Duplicates

The Cl, NH3, COD, and BOD field duplicate samples MW-102A (L1609862-03)/DUP-1 (L1609862-14) met acceptance criteria. No qualifications were applied to the data.

Laboratory Control Sample Results

All Cl, NH3, COD, and BOD laboratory control samples (LCS) met acceptance criteria. No qualifications were applied to the data.

L&RR PROJECT SUMMARY

Alpha Analytical Job Number: L1609862

Miscellaneous

Cl in samples MW-202 (L1609862-02) and MW-104A (L1609862-5) were analyzed at a 10-fold dilution. The detection limits for Cl were raised in these samples due to the dilution performed because of the elevated concentration of target analytes and/or due to the sample matrix.

Data Check, Inc. P.O. Box 29 81 Meaderboro Road New Durham, NH 03855

Gloria J. Switalski:

President

Date: 5/3/2016

Project # 224263



ANALYTICAL REPORT

Lab Number: L1609965

Client: Woodard & Curran

40 Shattuck Road

Suite 110

Andover, MA 01810

ATTN: Samantha Olney Phone: (978) 557-8150

Project Name: L&RR
Project Number: 224263
Report Date: 04/12/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



 Project Name:
 L&RR

 Project Number:
 224263

 Lab Number:
 04/12/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1609965-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/16 08:52	04/05/16
L1609965-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/16 07:47	04/05/16
L1609965-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1609965-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/16 15:27	04/05/16
L1609965-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/16 14:22	04/05/16
L1609965-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/16 09:52	04/05/16
L1609965-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/16 12:42	04/05/16
L1609965-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/16 14:45	04/05/16
L1609965-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/16 11:50	04/05/16
L1609965-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/16 13:18	04/05/16
L1609965-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/16 13:28	04/05/16
L1609965-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/16 13:42	04/05/16
L1609965-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/16 10:30	04/05/16
L1609965-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1609965-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/16 13:55	04/05/16
L1609965-16	TRIP BLANK	WATER	NORTH SMITHFIELD, RI	04/05/16 00:00	04/05/16



Project Name:L&RRLab Number:L1609965Project Number:224263Report Date:04/12/16

Case Narrative

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

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

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

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

HOLD POLICY

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

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



 Project Name:
 L&RR
 Lab Number:
 L1609965

 Project Number:
 224263
 Report Date:
 04/12/16

Case Narrative (continued)

Report Submission

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

Sample Receipt

Containers for the analysis of 504.1 were not received for the "TRIP BLANK".

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

Authorized Signature:

Title: Technical Director/Representative Date: 04/12/16

600, Sharow Kelly Stenstrom

ORGANICS



VOLATILES



04/05/16

Date Received:

Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-01 Date Collected: 04/05/16 08:52

Client ID: MW-201

Water

Field Prep: Sample Location: NORTH SMITHFIELD, RI Not Specified Matrix:

Analytical Method: 1,8260C

Analytical Date: 04/08/16 12:58

Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 08:52

Client ID: MW-201 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Sample Location. NOTTH Sivi	IIIIII ILLD, IXI			i iciu i ic	ρ.	Not Specified
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	2.8	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.14	1
Tetrahydrofuran	ND		ug/l	2.0	0.52	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1
			-			



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 08:52

Client ID: MW-201 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westb	orough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

Summa mata	0/ Danassams	O. alifian	Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	115		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	119		70-130	
Dibromofluoromethane	93		70-130	

Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-01 Client ID: MW-201

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water Analytical Method: 14,504.1 Analytical Date: 04/07/16 17:44

Analyst: NS Date Collected: 04/05/16 08:52 Date Received: 04/05/16 Field Prep: Not Specified Extraction Method: EPA 8011

04/07/16 14:16 Extraction Date:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborou	ıgh Lab						
1,2-Dibromoethane	ND		ug/l	0.020	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.020	0.007	1	Α

04/05/16

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-02 Date Collected: 04/05/16 07:47

Client ID: MW-202 Date Received:

04/08/16 13:26

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified Matrix: Water

Analytical Method: 1,8260C

Analyst: PD

Analytical Date:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westborough Lab							
Methylene chloride	ND		ug/l	3.0	0.29	1	
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1	
Chloroform	ND		ug/l	0.75	0.16	1	
Carbon tetrachloride	ND		ug/l	0.50	0.13	1	
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1	
Dibromochloromethane	ND		ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1	
Tetrachloroethene	ND		ug/l	0.50	0.18	1	
Chlorobenzene	ND		ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1	
Bromodichloromethane	ND		ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1	
Bromoform	ND		ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1	
Benzene	ND		ug/l	0.50	0.16	1	
Toluene	ND		ug/l	0.75	0.16	1	
Ethylbenzene	ND		ug/l	0.50	0.17	1	
Chloromethane	ND		ug/l	2.0	0.18	1	
Bromomethane	ND		ug/l	1.0	0.26	1	
Vinyl chloride	ND		ug/l	0.20	0.07	1	
Chloroethane	ND		ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1	
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1	
Trichloroethene	ND		ug/l	0.50	0.18	1	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 07:47

Client ID: MW-202 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Sample Location. NOITH Siv	ATTITICED, IXI			i icia i ic	-p.	Not Specified
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	estborough Lab					
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	1.8	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.14	1
Tetrahydrofuran	ND		ug/l	2.0	0.52	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 07:47

Client ID: MW-202 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RLMDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab 1,2,4-Trimethylbenzene ND 1.0 0.19 1 ug/l ND 1 trans-1,4-Dichloro-2-butene ug/l 2.5 0.17 ND 1 Ethyl ether ug/l 1.0 0.15 Diisopropyl Ether ND 1.0 0.42 1 ug/l Tert-Butyl Alcohol ND ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND 1 0.18 ug/l 1.0 Tertiary-Amyl Methyl Ether ND 1.0 0.28 1 ug/l 1 1,4-Dioxane ND 250 41. ug/l

10

ug/l

0.15

1

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	115		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	116		70-130				
Dibromofluoromethane	94		70-130				

ND

Freon-113

04/05/16 07:47

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-02 Date Collected:
Client ID: MW-202 Date Received:

Client ID: MW-202 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 8011
Analytical Method: 14,504.1 Extraction Date: 04/07/16 14:16

Analytical Method: 14,504.1 Extraction Date: 04/07/16 14:16
Analytical Date: 04/07/16 18:06

Analyst: NS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab)						
1,2-Dibromoethane	ND		ug/l	0.020	0.003	1	А
1,2-Dibromo-3-chloropropane	ND		ug/l	0.020	0.007	1	Α



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-03 Date Collected: 04/05/16 11:12

Client ID: MW-102A Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 04/08/16 13:55 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	9.8		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	1.1		ug/l	0.50	0.18	1
Chlorobenzene	2.6		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	1.0		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	5.2		ug/l	0.20	0.07	1
Chloroethane	1.0		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	0.50	J	ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	39	J	ug/l	0.50	0.16	1
Trichloroethene	2.1		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-03 Date Collected: 04/05/16 11:12

Client ID: MW-102A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Sample Location. NONTH Siv	pie Location. North Town The Leb, Ki				ρ.	Not Specified	
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - We	stborough Lab						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	1.6		ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1	
p/m-Xylene	ND		ug/l	1.0	0.33	1	
o-Xylene	ND		ug/l	1.0	0.33	1	
Xylenes, Total	ND		ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	38		ug/l	0.50	0.19	1	
Dibromomethane	ND		ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1	
Dichlorodifluoromethane	1.6	J	ug/l	2.0	0.24	1	
Acetone	3.8	J	ug/l	5.0	1.5	1	
Carbon disulfide	ND		ug/l	1.0	0.30	1	
2-Butanone	ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1	
2-Hexanone	ND		ug/l	5.0	0.52	1	
Acrylonitrile	ND		ug/l	5.0	0.43	1	
Bromochloromethane	ND		ug/l	1.0	0.14	1	
Tetrahydrofuran	1.3	J	ug/l	2.0	0.52	1	
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1	
Bromobenzene	ND		ug/l	1.0	0.15	1	
n-Butylbenzene	ND		ug/l	0.50	0.19	1	
sec-Butylbenzene	ND		ug/l	0.50	0.18	1	
tert-Butylbenzene	ND		ug/l	1.0	0.18	1	
o-Chlorotoluene	ND		ug/l	1.0	0.17	1	
o-Chlorotoluene	ND		ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1	
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1	
sopropylbenzene	ND		ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1	
Naphthalene	ND		ug/l	1.0	0.22	1	
n-Propylbenzene	ND		ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1	
			- 3-				



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-03 Date Collected: 04/05/16 11:12

Client ID: MW-102A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	2.5		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	119		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	116		70-130				
Dibromofluoromethane	95		70-130				

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-03
Client ID: MW-102A

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/07/16 18:29

Analyst: NS

Date Collected: 04/05/16 11:12
Date Received: 04/05/16
Field Prep: Not Specified

Extraction Method:EPA 8011
Extraction Date: 04/07/16 14:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.020	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.020	0.007	1	Α

04/05/16

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-04 Date Collected: 04/05/16 15:27

Client ID: MW-103A Date Received:

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified Matrix: Water

Analytical Method: 1,8260C

Analytical Date: 04/08/16 14:23 Analyst: PD

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	tborough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-04 Date Collected: 04/05/16 15:27

Client ID: MW-103A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

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Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - We	stborough Lab						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1	
p/m-Xylene	ND		ug/l	1.0	0.33	1	
o-Xylene	ND		ug/l	1.0	0.33	1	
Xylenes, Total	ND		ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1	
Dibromomethane	ND		ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1	
Acetone	2.9	J	ug/l	5.0	1.5	1	
Carbon disulfide	ND		ug/l	1.0	0.30	1	
2-Butanone	ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1	
2-Hexanone	ND		ug/l	5.0	0.52	1	
Acrylonitrile	ND		ug/l	5.0	0.43	1	
Bromochloromethane	ND		ug/l	1.0	0.14	1	
Tetrahydrofuran	ND		ug/l	2.0	0.52	1	
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1	
Bromobenzene	ND		ug/l	1.0	0.15	1	
n-Butylbenzene	ND		ug/l	0.50	0.19	1	
sec-Butylbenzene	ND		ug/l	0.50	0.18	1	
tert-Butylbenzene	ND		ug/l	1.0	0.18	1	
o-Chlorotoluene	ND		ug/l	1.0	0.17	1	
p-Chlorotoluene	ND		ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1	
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1	
Isopropylbenzene	ND		ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1	
Naphthalene	ND		ug/l	1.0	0.22	1	
n-Propylbenzene	ND		ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 15:27

Client ID: MW-103A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	tborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	115		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	116		70-130				
Dibromofluoromethane	93		70-130				

04/05/16 15:27

04/05/16

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-04 Date Collected:
Client ID: MW-103A Date Received:

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix:WaterExtraction Method: EPA 8011Analytical Method:14,504.1Extraction Date: 04/07/16 14:16

Analytical Date: 04/07/16 18:52

Analyst: NS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough Lab							
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	Α



04/05/16

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 14:22

Client ID: MW-104A
Sample Location: NORTH SMITHEIELD RI

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified Matrix: Water

Analytical Method: 1,8260C Analytical Date: 04/08/16 14:51

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	0.65		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.60		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 14:22

Client ID: MW-104A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Dample Location. NOTTH Sivi	, , , , , , , , , , , , , , , , , , ,			i icia i ic	γ.	Not Specified
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
1,2-Dichlorobenzene	0.18	J	ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	1.7		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	3.5	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.14	1
Tetrahydrofuran	4.3		ug/l	2.0	0.52	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
o-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
sopropylbenzene	0.26	J	ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	5.4		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 14:22

Client ID: MW-104A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	tborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	0.71	J	ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	69		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	64	J	ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	117		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	117		70-130				
Dibromofluoromethane	94		70-130				



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

 Lab ID:
 L1609965-05
 Date Collected:
 04/05/16 14:22

 Client ID:
 MW-104A
 Date Received:
 04/05/16

Client ID: MW-104A Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 8011
Analytical Method: 14,504.1 Extraction Date: 04/07/16 14:16

Analytical Date: 04/07/16 19:14

Analyst: NS

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column		
Microextractables by GC - Westborough Lab									
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α		
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	А		



04/05/16

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 09:52

Client ID: CW-5B

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 15:10

Analytical Date: 04/08/16 15:19

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	1.9		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 09:52

Client ID: CW-5B Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene ND ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l ND o-Xylene 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane 2.6 ug/l 2.0 0.24 1 Acetone 2.6 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran ND 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND 1.0 0.18 1 ug/l o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 J Naphthalene 0.24 ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l

ND

ND

ND

ND



1

1

1

1

1.0

1.0

1.0

1.0

ug/l

ug/l

ug/l

ug/l

0.23

0.22

0.17

0.13

1,2,3-Trichlorobenzene

1,2,4-Trichlorobenzene

1,3,5-Trimethylbenzene

1,3,5-Trichlorobenzene

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-06 Date Collected: 04/05/16 09:52

Client ID: CW-5B Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	tborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	8.8	J	ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	114		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	117		70-130				
Dibromofluoromethane	93		70-130				



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-06

Client ID: CW-5B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water Analytical Method: 14,504.1

Analytical Date: 04/07/16 19:36

Analyst: NS

Date Collected: 04/05/16 09:52

Date Received: 04/05/16
Field Prep: Not Specified

Extraction Method:EPA 8011
Extraction Date: 04/07/16 14:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough La	b						
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	Α

04/05/16

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 12:42

Client ID: CW-7B

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 15:47

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westbor	ough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 12:42

Client ID: CW-7B Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene ND ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l ND o-Xylene 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane ND ug/l 2.0 0.24 1 Acetone 2.5 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran 1.6 J 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND 1.0 0.18 1 ug/l o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-07 Date Collected: 04/05/16 12:42

Client ID: CW-7B Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - We	stborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	5.9	J	ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	118		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	116		70-130	
Dibromofluoromethane	93		70-130	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-07

Client ID: CW-7B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/07/16 20:21

Analyst: NS

Date Collected: 04/05/16 12:42

Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 8011

Extraction Date: 04/07/16 14:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westborough La	b						
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	Α

04/05/16

Not Specified

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 14:45

Client ID: SW-5

Sample Location: NORTH SMITHFIELD, RI Field Prep:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 16:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborou	ıgh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-08 Date Collected: 04/05/16 14:45

Client ID: SW-5 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene ND ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l o-Xylene ND 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane ND ug/l 2.0 0.24 1 Acetone J 5.0 1.5 1 1.7 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran ND 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 ug/l 0.16 1 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND 1.0 0.18 1 ug/l o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-08 Date Collected: 04/05/16 14:45

Client ID: SW-5 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - We	stborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	116		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	117		70-130	
Dibromofluoromethane	93		70-130	

04/05/16

Not Specified

Date Received:

Field Prep:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 11:50

Client ID: SW-8

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 16:43

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Wes	stborough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	0.22	J	ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-09 Date Collected: 04/05/16 11:50

Client ID: SW-8 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 J 1,4-Dichlorobenzene 0.66 ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l ND o-Xylene 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane ND ug/l 2.0 0.24 1 Acetone 4.9 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran 1.1 J 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 0.33 J 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-09 Date Collected: 04/05/16 11:50

Client ID: SW-8 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	tborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	0.54	J	ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	11		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	115		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	117		70-130	
Dibromofluoromethane	93		70-130	

04/05/16

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:18

Client ID: SW-10 Date Received:

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 17:11

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1	
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1	
Chloroform	ND		ug/l	0.75	0.16	1	
Carbon tetrachloride	ND		ug/l	0.50	0.13	1	
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1	
Dibromochloromethane	ND		ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1	
Tetrachloroethene	ND		ug/l	0.50	0.18	1	
Chlorobenzene	0.28	J	ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1	
Bromodichloromethane	ND		ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1	
Bromoform	ND		ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1	
Benzene	ND		ug/l	0.50	0.16	1	
Toluene	ND		ug/l	0.75	0.16	1	
Ethylbenzene	ND		ug/l	0.50	0.17	1	
Chloromethane	ND		ug/l	2.0	0.18	1	
Bromomethane	ND		ug/l	1.0	0.26	1	
Vinyl chloride	ND		ug/l	0.20	0.07	1	
Chloroethane	0.45	J	ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1	
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1	
Trichloroethene	ND		ug/l	0.50	0.18	1	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:18

Client ID: SW-10 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Jampie Location. NOTTH Siv	IIIII ILLD, IXI			i iciu i ic	ρ.	Not Specified
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	0.43	J	ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	5.1		ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.14	1
Tetrahydrofuran	1.6	J	ug/l	2.0	0.52	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-lsopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1



04/05/16 13:18

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-10 Date Collected:

Client ID: SW-10 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	tborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	1.2		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	13		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	117		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	117		70-130	
Dibromofluoromethane	93		70-130	



04/05/16

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:28

Client ID: SW-16 Date Received:

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 17:39

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-11 Date Collected: 04/05/16 13:28

Client ID: SW-16 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene ND ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l ND o-Xylene 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane ND ug/l 2.0 0.24 1 Acetone 3.3 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran ND 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND 1.0 0.18 1 ug/l o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:28

Client ID: SW-16 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	1.6	J	ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
1,2-Dichloroethane-d4	117		70-130			
Toluene-d8	105		70-130			
4-Bromofluorobenzene	116		70-130			
Dibromofluoromethane	94		70-130			

04/05/16

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:42

Client ID: LCH-3

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 18:07

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-12 Date Collected: 04/05/16 13:42

Client ID: LCH-3 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene ND ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l ND o-Xylene 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene ND 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane ND ug/l 2.0 0.24 1 Acetone 2.1 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran ND 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND 1.0 0.18 1 ug/l o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-12 Date Collected: 04/05/16 13:42

Client ID: LCH-3 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance					
Surrogate	% Recovery	Qualifier	Criteria			
1,2-Dichloroethane-d4	120		70-130			
Toluene-d8	106		70-130			
4-Bromofluorobenzene	116		70-130			
Dibromofluoromethane	94		70-130			

04/05/16

Not Specified

Date Received:

Field Prep:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-13 Date Collected: 04/05/16 10:30

Client ID: LCH-5

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 18:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough	Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-13 Date Collected: 04/05/16 10:30

Client ID: LCH-5 Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL Dilution Factor

1.2-Dichiorobenzene	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,3-Dichlorobenzene ND ugil 1,0 0,19 1 1,4-Dichlorobenzene ND ugil 1,0 0,19 1 1,4-Dichlorobenzene ND ugil 1,0 0,16 1 1,4-Dichlorobenzene ND ugil 1,0 0,16 1 1,6-Dichlorobenzene ND ugil 1,0 0,33 1 0,3 1 0,3	Volatile Organics by GC/MS - Wes	stborough Lab					
1,4-Dichlorobenzene	1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
Methyl tert buyl ether ND Ugl 1.0 0.16 1 1 1 1 1 1 1 1 1	1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Dim Nylene	1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
o-Xylene ND ugl 1.0 0.33 1 Xylenes, Total ND ugl 1.0 0.33 1 Xylenes, Total ND ugl 0.50 0.19 1 Dibribordinethane ND ugl 1.0 0.36 1 1,2,3-Trichloropropane ND ugl 1.0 0.18 1 1,2,3-Trichloropropane ND ugl 2.0 0.24 1 Acetone 1.6 J ugl 5.0 1.5 1 Carbon disatifie ND ugl 5.0 1.5 1 2-Butanone ND ugl 5.0 0.42 1 4-Methyl-2-pentanone ND ugl 5.0 0.42 1 2-Hexanone ND ugl 5.0 0.42 1 2-Hexanone ND ugl 5.0 0.52 1 Rowarylohinite ND ugl 5.0 0.52 1	Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
Xylones, Total ND ug/l 1.0 0.33 1 cis-1,2-Dicbforoethene ND ug/l 0.50 0.19 1 cis-1,2-Dicbforoethene ND ug/l 1.0 0.56 1 Dicharcoeffilioropropane ND ug/l 1.0 0.18 1 Dichforcoeffilioromethane ND ug/l 2.0 0.24 1 Acetone 1.6 J ug/l 1.0 0.30 1 Carbon Gistifide ND ug/l 1.0 0.30 1 2-Buranone ND ug/l 5.0 0.19 1 4-Methyl-2-portanone ND ug/l 5.0 0.42 1 2-Hexanone ND ug/l 5.0 0.52 1 Acrylonitile ND ug/l 5.0 0.52 1 Bromochloromethane ND ug/l 1.0 0.14 1 1-2-Dichloropropane ND ug/l 1.0 0.19	p/m-Xylene	ND		ug/l	1.0	0.33	1
ND	o-Xylene	ND		ug/l	1.0	0.33	1
Dibriormomethane ND	Xylenes, Total	ND		ug/l	1.0	0.33	1
1,2,3-Trichloropropane ND Ug/l 1,0 0,18 1 1 1 1 1 1 1 1 1	cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dichlorodiffluoromethane ND	Dibromomethane	ND		ug/l	1.0	0.36	1
Acetone 1.6 J ug/l 5.0 1.5 1 Carbon disulfide ND ug/l 1.0 0.30 1 2-Bulanone ND ug/l 5.0 1.9 1 4-Methyl-2-pentanone ND ug/l 5.0 0.42 1 2-Hexanone ND ug/l 5.0 0.43 1 Acryonintria ND ug/l 5.0 0.43 1 Bromochloromethane ND ug/l 1.0 0.14 1 Bromochloropropane ND ug/l 1.0 0.14 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,1-1,2-Tetrachloroethane ND ug/l 1.0 0.16 1 Bromobenzane ND ug/l 1.0 0.15 1 Bromobenzane ND ug/l 0.50 0.18 1 <td>1,2,3-Trichloropropane</td> <td>ND</td> <td></td> <td>ug/l</td> <td>1.0</td> <td>0.18</td> <td>1</td>	1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Carbon disulfide ND ug/l 1.0 0.30 1 2-Butanone ND ug/l 5.0 1.9 1 4-Methyl-2-pentanone ND ug/l 5.0 0.42 1 2-Hexanone ND ug/l 5.0 0.52 1 Acrylonitrile ND ug/l 5.0 0.52 1 Bromochloromethane ND ug/l 1.0 0.14 1 Tetrahydrofuran ND ug/l 1.0 0.52 1 1_2-Dibriomoethane ND ug/l 1.0 0.52 1 1_2-Dibriomoethane ND ug/l 1.0 0.19 1 1_3-Dichloropropane ND ug/l 1.0 0.19 1 1_3-Dichloropropane ND ug/l 0.50 0.16 1 1_3-Dichloropropane ND ug/l 0.50 0.16 1 1_1-1_1-Tetrachloropropane ND ug/l 0.50 0.19 1 <td>Dichlorodifluoromethane</td> <td>ND</td> <td></td> <td>ug/l</td> <td>2.0</td> <td>0.24</td> <td>1</td>	Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
2-Butanone ND ug/l 5.0 1.9 1 4-Methyl-2-pentanone ND ug/l 5.0 0.42 1 2-Hexanone ND ug/l 5.0 0.52 1 Acrylontirle ND ug/l 5.0 0.43 1 Bromochloromethane ND ug/l 1.0 0.14 1 Etrathydrofuran ND ug/l 1.0 0.14 1 2-2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.20 1 1,1-1,2-Tetrachloroethane ND ug/l 1.0 0.21 1 Bromoebazene ND ug/l 0.50 0.16 1 Bromoebazene ND ug/l 0.50 0.19 1 ee-Butylbenzene ND ug/l 0.50 0.19 1 <tr< td=""><td>Acetone</td><td>1.6</td><td>J</td><td>ug/l</td><td>5.0</td><td>1.5</td><td>1</td></tr<>	Acetone	1.6	J	ug/l	5.0	1.5	1
4-Methyl-2-pentanone ND ug/l 5.0 0.42 1 2-Hexanone ND ug/l 5.0 0.52 1 Acrytonitrile ND ug/l 5.0 0.43 1 Bromochforomethane ND ug/l 1.0 0.14 1 Tetrahydrofuran ND ug/l 1.0 0.52 1 12-Dibromochane ND ug/l 1.0 0.20 1 1,3-Dichloropropane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.19 1 1,1,1,2-Tetrachloroethane ND ug/l 1.0 0.16 1 Bromobenzene ND ug/l 0.50 0.16 1 n-Butylbenzene ND ug/l 0.50 0.18 1 esc-Butylbenzene ND ug/l 1.0 0.17 1	Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Hexanone ND ug/l 5.0 0.52 1 Acrylonitrile ND ug/l 5.0 0.43 1 Bromochloromethane ND ug/l 1.0 0.14 1 Tetrahydrofuran ND ug/l 1.0 0.52 1 2,2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dichloropropane ND ug/l 1.0 0.20 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 0.50 0.16 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.18 1 1-Publybenzene ND ug/l 0.50 0.18	2-Butanone	ND		ug/l	5.0	1.9	1
Acrylonitrile ND ug/l 5.0 0.43 1 Bromochloromethane ND ug/l 1.0 0.14 1 Tetrahydrofuran ND ug/l 2.0 0.52 1 2,2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.17 1 <td>4-Methyl-2-pentanone</td> <td>ND</td> <td></td> <td>ug/l</td> <td>5.0</td> <td>0.42</td> <td>1</td>	4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
Bromochloromethane ND ug/l 1.0 0.14 1 Tetrahydrofuran ND ug/l 2.0 0.52 1 2,2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 n-Butylbenzene ND ug/l 0.50 0.16 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 terr-Butylbenzene ND ug/l 1.0 0.18 1 terr-Butylbenzene ND ug/l 1.0 0.18 1 terr-Butylbenzene ND ug/l 1.0 0.17 1 cerr-Butylbenzene ND ug/l 1.0 0.18 1<	2-Hexanone	ND		ug/l	5.0	0.52	1
Tetrahydrofuran ND ug/l 2.0 0.52 1 2,2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 n-Butylbenzene ND ug/l 0.50 0.16 1 sec-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1<	Acrylonitrile	ND		ug/l	5.0	0.43	1
2,2-Dichloropropane ND ug/l 1.0 0.20 1 1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 n-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.33 1	Bromochloromethane	ND		ug/l	1.0	0.14	1
1,2-Dibromoethane ND ug/l 1.0 0.19 1 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 Bromobenzene ND ug/l 0.50 0.19 1 n-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tetr-Butylbenzene ND ug/l 1.0 0.18 1 tetr-Butylbenzene ND ug/l 0.50 0.22 1	Tetrahydrofuran	ND		ug/l	2.0	0.52	1
1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 n-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 ec-Chlorotoluene ND ug/l 1.0 0.18 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.18 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 P-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 0.50 0.17	2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,1,1,2-Tetrachloroethane ND ug/l 0.50 0.16 1 Bromobenzene ND ug/l 1.0 0.15 1 n-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.18 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 0.50 0.17 1 n-Propylbenzene ND ug/l 0.50 0.17	1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
Bromobenzene ND	1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
n-Butylbenzene ND ug/l 0.50 0.19 1 sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyttoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 0.50 0.19 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.22 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.17	1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
sec-Butylbenzene ND ug/l 0.50 0.18 1 tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 P-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17	Bromobenzene	ND		ug/l	1.0	0.15	1
tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND ug/l 0.50 0.19 1 ND Naphthalene ND ug/l 0.50 0.19 1 ND ug/l 0.50 0.19 1 1,2,3-Trichlorobenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.22 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.22 1	n-Butylbenzene	ND		ug/l	0.50	0.19	1
o-Chlorotoluene ND ug/l 1.0 0.17 1 p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 1.0 0.22 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	sec-Butylbenzene	ND		ug/l	0.50	0.18	1
p-Chlorotoluene ND ug/l 1.0 0.18 1 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 0.50 0.19 1 1,2,3-Trichlorobenzene ND ug/l 0.50 0.17 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.22 1	tert-Butylbenzene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	o-Chlorotoluene	ND		ug/l	1.0	0.17	1
Hexachlorobutadiene ND ug/l 0.50 0.22 1 Isopropylbenzene ND ug/l 0.50 0.19 1 p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	p-Chlorotoluene	ND		ug/l	1.0	0.18	1
Isopropylbenzene ND ug/l 0.50 0.19 1	1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
p-Isopropyltoluene ND ug/l 0.50 0.19 1 Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Naphthalene ND ug/l 1.0 0.22 1 n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	Isopropylbenzene	ND		ug/l	0.50	0.19	1
n-Propylbenzene ND ug/l 0.50 0.17 1 1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
1,2,3-Trichlorobenzene ND ug/l 1.0 0.23 1 1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	Naphthalene	ND		ug/l	1.0	0.22	1
1,2,4-Trichlorobenzene ND ug/l 1.0 0.22 1 1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,3,5-Trimethylbenzene ND ug/l 1.0 0.17 1	1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
	1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trichlorobenzene ND ug/l 1.0 0.13 1	1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
	1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-13 Date Collected: 04/05/16 10:30

Client ID: LCH-5 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Volatile Organics by GC/MS - Westborough Lab 1,2,4-Trimethylbenzene ND ug/l 1.0 0.19 1 trans-1,4-Dichloro-2-butene ND ug/l 2.5 0.17 1 Ethyl ether ND ug/l 1.0 0.15 1 Diisopropyl Ether ND ug/l 1.0 0.42 1 Tert-Butyl Alcohol 3.6 J ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41 1 Freon-113 ND ug/l 10 0.15 1	Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
trans-1,4-Dichloro-2-butene ND ug/l 2.5 0.17 1 Ethyl ether ND ug/l 1.0 0.15 1 Diisopropyl Ether ND ug/l 1.0 0.42 1 Tert-Butyl Alcohol 3.6 J ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	Volatile Organics by GC/MS - Wes	tborough Lab						
Ethyl ether ND ug/l 1.0 0.15 1 Diisopropyl Ether ND ug/l 1.0 0.42 1 Tert-Butyl Alcohol 3.6 J ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
Diisopropyl Ether ND ug/l 1.0 0.42 1 Tert-Butyl Alcohol 3.6 J ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Tert-Butyl Alcohol 3.6 J ug/l 10 0.90 1 Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	Ethyl ether	ND		ug/l	1.0	0.15	1	
Ethyl-Tert-Butyl-Ether ND ug/l 1.0 0.18 1 Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tertiary-Amyl Methyl Ether ND ug/l 1.0 0.28 1 1,4-Dioxane ND ug/l 250 41. 1	Tert-Butyl Alcohol	3.6	J	ug/l	10	0.90	1	
1,4-Dioxane ND ug/l 250 41. 1	Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
	Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
Freon-113 ND ug/l 10 0.15 1	1,4-Dioxane	ND		ug/l	250	41.	1	
	Freon-113	ND		ug/l	10	0.15	1	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	118		70-130	
Toluene-d8	105		70-130	
4-Bromofluorobenzene	117		70-130	
Dibromofluoromethane	93		70-130	

04/05/16

Not Specified

Date Received:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 11:12

Client ID: DUP-1

Sample Location: NORTH SMITHFIELD, RI Field Prep:

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/08/16 19:03

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westboro	ugh Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	10		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	1.2		ug/l	0.50	0.18	1
Chlorobenzene	2.7		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	1.0		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	5.3		ug/l	0.20	0.07	1
Chloroethane	1.1		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	0.49	J	ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	39	J	ug/l	0.50	0.16	1
Trichloroethene	2.1		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-14 Date Collected: 04/05/16 11:12

Client ID: DUP-1 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter Result Qualifier Units RL MDL **Dilution Factor** Volatile Organics by GC/MS - Westborough Lab ND 1.0 1,2-Dichlorobenzene 0.18 ug/l 1 1,3-Dichlorobenzene ND ug/l 1.0 0.19 1,4-Dichlorobenzene 1.6 ug/l 1.0 0.19 1 Methyl tert butyl ether ND 1.0 0.16 1 ug/l p/m-Xylene ND 1.0 0.33 1 ug/l o-Xylene ND 1.0 0.33 1 ug/l Xylenes, Total ND 1.0 0.33 1 ug/l cis-1,2-Dichloroethene 39 0.50 0.19 1 ug/l Dibromomethane ND 1.0 0.36 1 ug/l 1,2,3-Trichloropropane ND 1.0 0.18 1 ug/l Dichlorodifluoromethane 1.8 J ug/l 2.0 0.24 1 Acetone 1.8 J 5.0 1.5 1 ug/l Carbon disulfide ND 1.0 0.30 1 ug/l ND 2-Butanone ug/l 5.0 1.9 1 ND 5.0 0.42 4-Methyl-2-pentanone 1 ug/l 2-Hexanone ND 5.0 0.52 1 ug/l Acrylonitrile ND ug/l 5.0 0.43 1 ND Bromochloromethane 1.0 0.14 1 ug/l Tetrahydrofuran 1.3 J 2.0 0.52 1 ug/l 2,2-Dichloropropane ND 1.0 0.20 1 ug/l ND 1.0 0.19 1 1,2-Dibromoethane ug/l 1,3-Dichloropropane ND ug/l 1.0 0.21 1 1,1,1,2-Tetrachloroethane ND 0.50 1 ug/l 0.16 Bromobenzene ND 1.0 0.15 1 ug/l n-Butylbenzene ND 0.50 0.19 1 ug/l sec-Butylbenzene ND 0.50 0.18 1 ug/l tert-Butylbenzene ND ug/l 1.0 0.18 1 o-Chlorotoluene ND ug/l 1.0 0.17 1 ND p-Chlorotoluene 1.0 0.18 1 ug/l 1,2-Dibromo-3-chloropropane ND ug/l 1.0 0.33 1 Hexachlorobutadiene ND ug/l 0.50 0.22 1 ND 0.50 1 Isopropylbenzene ug/l 0.19 p-Isopropyltoluene ND ug/l 0.50 0.19 1 ND Naphthalene ug/l 1.0 0.22 1 n-Propylbenzene ND 0.50 0.17 1 ug/l 1,2,3-Trichlorobenzene ND 1.0 0.23 1 ug/l 1,2,4-Trichlorobenzene ND 0.22 1 ug/l 1.0 ND 1,3,5-Trimethylbenzene 1.0 0.17 1 ug/l ND 1,3,5-Trichlorobenzene ug/l 1.0 0.13 1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-14 Date Collected: 04/05/16 11:12

Client ID: DUP-1 Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - West	borough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	2.6		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

	Acceptance						
Surrogate	% Recovery	Qualifier	Criteria				
1,2-Dichloroethane-d4	121		70-130				
Toluene-d8	106		70-130				
4-Bromofluorobenzene	117		70-130				
Dibromofluoromethane	96		70-130				

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-14 Da

Sample Location: NORTH SMITHFIELD, RI

DUP-1

Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/07/16 20:43

Analyst: NS

Client ID:

Date Collected: 04/05/16 11:12
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 8011
Extraction Date: 04/07/16 14:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westboroug	h Lab						
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	Α

04/05/16

Not Specified

Date Received:

Field Prep:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:55

Client ID: EQUIPMENT BLANK
Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/07/16 23:36

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westboroug	gh Lab						
Methylene chloride	ND		ug/l	3.0	0.29	1	
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1	
Chloroform	ND		ug/l	0.75	0.16	1	
Carbon tetrachloride	ND		ug/l	0.50	0.13	1	
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1	
Dibromochloromethane	ND		ug/l	0.50	0.15	1	
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1	
Tetrachloroethene	ND		ug/l	0.50	0.18	1	
Chlorobenzene	ND		ug/l	0.50	0.18	1	
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1	
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1	
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1	
Bromodichloromethane	ND		ug/l	0.50	0.19	1	
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1	
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1	
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1	
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1	
Bromoform	ND		ug/l	1.0	0.25	1	
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1	
Benzene	ND		ug/l	0.50	0.16	1	
Toluene	ND		ug/l	0.75	0.16	1	
Ethylbenzene	ND		ug/l	0.50	0.17	1	
Chloromethane	ND		ug/l	2.0	0.18	1	
Bromomethane	ND		ug/l	1.0	0.26	1	
Vinyl chloride	ND		ug/l	0.20	0.07	1	
Chloroethane	ND		ug/l	1.0	0.13	1	
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1	
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1	
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1	
Trichloroethene	ND		ug/l	0.50	0.18	1	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 13:55

Client ID: EQUIPMENT BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Sample Location. NOTTH Siv	IIIII ILLD, IXI			i icia i ic	-p.	Not Specified
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - We	stborough Lab					
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1
p/m-Xylene	ND		ug/l	1.0	0.33	1
o-Xylene	ND		ug/l	1.0	0.33	1
Xylenes, Total	ND		ug/l	1.0	0.33	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1
Dibromomethane	ND		ug/l	1.0	0.36	1
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1
Acetone	3.0	J	ug/l	5.0	1.5	1
Carbon disulfide	ND		ug/l	1.0	0.30	1
2-Butanone	ND		ug/l	5.0	1.9	1
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1
2-Hexanone	ND		ug/l	5.0	0.52	1
Acrylonitrile	ND		ug/l	5.0	0.43	1
Bromochloromethane	ND		ug/l	1.0	0.14	1
Tetrahydrofuran	ND		ug/l	2.0	0.52	1
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1
Bromobenzene	ND		ug/l	1.0	0.15	1
n-Butylbenzene	ND		ug/l	0.50	0.19	1
sec-Butylbenzene	ND		ug/l	0.50	0.18	1
tert-Butylbenzene	ND		ug/l	1.0	0.18	1
o-Chlorotoluene	ND		ug/l	1.0	0.17	1
p-Chlorotoluene	ND		ug/l	1.0	0.18	1
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1
Isopropylbenzene	ND		ug/l	0.50	0.19	1
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1
Naphthalene	ND		ug/l	1.0	0.22	1
n-Propylbenzene	ND		ug/l	0.50	0.17	1
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1



04/05/16 13:55

Date Collected:

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-15

Client ID: EQUIPMENT BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - West	borough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

			Acceptance	
Surrogate	% Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	113		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	117		70-130	
Dibromofluoromethane	93		70-130	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-15

Client ID: EQUIPMENT BLANK
Sample Location: NORTH SMITHFIELD, RI

Matrix: Water
Analytical Method: 14,504.1
Analytical Date: 04/07/16 21:06

Analyst: NS

Date Collected: 04/05/16 13:55
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method:EPA 8011
Extraction Date: 04/07/16 14:16

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Microextractables by GC - Westbore	ough Lab						
1,2-Dibromoethane	ND		ug/l	0.021	0.003	1	Α
1,2-Dibromo-3-chloropropane	ND		ug/l	0.021	0.007	1	Α

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 00:00

Client ID: TRIP BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water
Analytical Method: 1,8260C
Analytical Date: 04/07/16 23:08

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westbord	ough Lab					
Methylene chloride	ND		ug/l	3.0	0.29	1
1,1-Dichloroethane	ND		ug/l	0.75	0.21	1
Chloroform	ND		ug/l	0.75	0.16	1
Carbon tetrachloride	ND		ug/l	0.50	0.13	1
1,2-Dichloropropane	ND		ug/l	1.0	0.13	1
Dibromochloromethane	ND		ug/l	0.50	0.15	1
1,1,2-Trichloroethane	ND		ug/l	0.75	0.14	1
Tetrachloroethene	ND		ug/l	0.50	0.18	1
Chlorobenzene	ND		ug/l	0.50	0.18	1
Trichlorofluoromethane	ND		ug/l	1.0	0.16	1
1,2-Dichloroethane	ND		ug/l	0.50	0.13	1
1,1,1-Trichloroethane	ND		ug/l	0.50	0.16	1
Bromodichloromethane	ND		ug/l	0.50	0.19	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	0.16	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	0.14	1
1,3-Dichloropropene, Total	ND		ug/l	0.50	0.14	1
1,1-Dichloropropene	ND		ug/l	1.0	0.17	1
Bromoform	ND		ug/l	1.0	0.25	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	0.14	1
Benzene	ND		ug/l	0.50	0.16	1
Toluene	ND		ug/l	0.75	0.16	1
Ethylbenzene	ND		ug/l	0.50	0.17	1
Chloromethane	ND		ug/l	2.0	0.18	1
Bromomethane	ND		ug/l	1.0	0.26	1
Vinyl chloride	ND		ug/l	0.20	0.07	1
Chloroethane	ND		ug/l	1.0	0.13	1
1,1-Dichloroethene	ND		ug/l	0.50	0.14	1
trans-1,2-Dichloroethene	ND		ug/l	0.75	0.16	1
1,2-Dichloroethene, Total	ND		ug/l	0.50	0.16	1
Trichloroethene	ND		ug/l	0.50	0.18	1



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 00:00

Client ID: TRIP BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

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Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Wes	stborough Lab						
1,2-Dichlorobenzene	ND		ug/l	1.0	0.18	1	
1,3-Dichlorobenzene	ND		ug/l	1.0	0.19	1	
1,4-Dichlorobenzene	ND		ug/l	1.0	0.19	1	
Methyl tert butyl ether	ND		ug/l	1.0	0.16	1	
p/m-Xylene	ND		ug/l	1.0	0.33	1	
o-Xylene	ND		ug/l	1.0	0.33	1	
Xylenes, Total	ND		ug/l	1.0	0.33	1	
cis-1,2-Dichloroethene	ND		ug/l	0.50	0.19	1	
Dibromomethane	ND		ug/l	1.0	0.36	1	
1,2,3-Trichloropropane	ND		ug/l	1.0	0.18	1	
Dichlorodifluoromethane	ND		ug/l	2.0	0.24	1	
Acetone	2.0	J	ug/l	5.0	1.5	1	
Carbon disulfide	ND		ug/l	1.0	0.30	1	
2-Butanone	ND		ug/l	5.0	1.9	1	
4-Methyl-2-pentanone	ND		ug/l	5.0	0.42	1	
2-Hexanone	ND		ug/l	5.0	0.52	1	
Acrylonitrile	ND		ug/l	5.0	0.43	1	
Bromochloromethane	ND		ug/l	1.0	0.14	1	
Tetrahydrofuran	ND		ug/l	2.0	0.52	1	
2,2-Dichloropropane	ND		ug/l	1.0	0.20	1	
1,2-Dibromoethane	ND		ug/l	1.0	0.19	1	
1,3-Dichloropropane	ND		ug/l	1.0	0.21	1	
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	0.16	1	
Bromobenzene	ND		ug/l	1.0	0.15	1	
n-Butylbenzene	ND		ug/l	0.50	0.19	1	
sec-Butylbenzene	ND		ug/l	0.50	0.18	1	
tert-Butylbenzene	ND		ug/l	1.0	0.18	1	
o-Chlorotoluene	ND		ug/l	1.0	0.17	1	
p-Chlorotoluene	ND		ug/l	1.0	0.18	1	
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	1	
Hexachlorobutadiene	ND		ug/l	0.50	0.22	1	
Isopropylbenzene	ND		ug/l	0.50	0.19	1	
p-Isopropyltoluene	ND		ug/l	0.50	0.19	1	
Naphthalene	ND		ug/l	1.0	0.22	1	
n-Propylbenzene	ND		ug/l	0.50	0.17	1	
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	1	
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	1	
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	1	
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	1	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: Date Collected: 04/05/16 00:00

Client ID: TRIP BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westbo	orough Lab						
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	1	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	1	
Ethyl ether	ND		ug/l	1.0	0.15	1	
Diisopropyl Ether	ND		ug/l	1.0	0.42	1	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	1	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	1	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	1	
1,4-Dioxane	ND		ug/l	250	41.	1	
Freon-113	ND		ug/l	10	0.15	1	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,2-Dichloroethane-d4	114		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	116		70-130	
Dibromofluoromethane	93		70-130	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

Method Blank Analysis Batch Quality Control

Analytical Method: 14,504.1 Extraction Method: EPA 8011

Analytical Date: 04/07/16 16:15 Extraction Date: 04/07/16 14:16
Analyst: NS

Parameter	Result	Qualifier	Units	RL	MDL	
Microextractables by GC - West	borough Lab fo	or sample(s)	: 01-07,	14-15 Batch:	WG881277-1	
1,2-Dibromoethane	ND		ug/l	0.020	0.003	Α
1.2-Dibromo-3-chloropropane	ND		ug/l	0.020	0.007	Α



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/07/16 22:40

arameter	Result	Qualifier Units	s RL	MDL
olatile Organics by GC/MS	- Westborough La	b for sample(s):	15-16 Batch:	WG881828-3
Methylene chloride	ND	ug/	3.0	0.29
1,1-Dichloroethane	ND	ug/	0.75	0.21
Chloroform	ND	ug/	0.75	0.16
Carbon tetrachloride	ND	ug/	0.50	0.13
1,2-Dichloropropane	ND	ug/	1.0	0.13
Dibromochloromethane	ND	ug/	0.50	0.15
1,1,2-Trichloroethane	ND	ug/	0.75	0.14
Tetrachloroethene	ND	ug/	0.50	0.18
Chlorobenzene	ND	ug/	0.50	0.18
Trichlorofluoromethane	ND	ug/	1.0	0.16
1,2-Dichloroethane	ND	ug/	0.50	0.13
1,1,1-Trichloroethane	ND	ug/	0.50	0.16
Bromodichloromethane	ND	ug/	0.50	0.19
trans-1,3-Dichloropropene	ND	ug/	0.50	0.16
cis-1,3-Dichloropropene	ND	ug/	0.50	0.14
1,3-Dichloropropene, Total	ND	ug/	0.50	0.14
1,1-Dichloropropene	ND	ug/	1.0	0.17
Bromoform	ND	ug/	1.0	0.25
1,1,2,2-Tetrachloroethane	ND	ug/	0.50	0.14
Benzene	ND	ug/	0.50	0.16
Toluene	ND	ug/	0.75	0.16
Ethylbenzene	ND	ug/	0.50	0.17
Chloromethane	ND	ug/	2.0	0.18
Bromomethane	ND	ug/	1.0	0.26
Vinyl chloride	ND	ug/	0.20	0.07
Chloroethane	ND	ug/	1.0	0.13
1,1-Dichloroethene	ND	ug/	0.50	0.14
trans-1,2-Dichloroethene	ND	ug/	0.75	0.16
1,2-Dichloroethene, Total	ND	ug/	0.50	0.16



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/07/16 22:40

Parameter	Result	Qualifier L	Jnits		RL	MDL
olatile Organics by GC/MS	- Westborough Lal	b for sample(s):	15-16	Batch:	WG881828-3
Trichloroethene	ND		ug/l		0.50	0.18
1,2-Dichlorobenzene	ND		ug/l		1.0	0.18
1,3-Dichlorobenzene	ND		ug/l		1.0	0.19
1,4-Dichlorobenzene	ND		ug/l		1.0	0.19
Methyl tert butyl ether	ND		ug/l		1.0	0.16
p/m-Xylene	ND		ug/l		1.0	0.33
o-Xylene	ND		ug/l		1.0	0.33
Xylenes, Total	ND		ug/l		1.0	0.33
cis-1,2-Dichloroethene	ND		ug/l		0.50	0.19
Dibromomethane	ND		ug/l		1.0	0.36
1,2,3-Trichloropropane	ND		ug/l		1.0	0.18
Dichlorodifluoromethane	ND		ug/l		2.0	0.24
Acetone	ND		ug/l		5.0	1.5
Carbon disulfide	ND		ug/l		1.0	0.30
2-Butanone	ND		ug/l		5.0	1.9
4-Methyl-2-pentanone	ND		ug/l		5.0	0.42
2-Hexanone	ND		ug/l		5.0	0.52
Acrylonitrile	ND		ug/l		5.0	0.43
Bromochloromethane	ND		ug/l		1.0	0.14
Tetrahydrofuran	ND		ug/l		2.0	0.52
2,2-Dichloropropane	ND		ug/l		1.0	0.20
1,2-Dibromoethane	ND		ug/l		1.0	0.19
1,3-Dichloropropane	ND		ug/l		1.0	0.21
1,1,1,2-Tetrachloroethane	ND		ug/l		0.50	0.16
Bromobenzene	ND		ug/l		1.0	0.15
n-Butylbenzene	ND		ug/l		0.50	0.19
sec-Butylbenzene	ND		ug/l		0.50	0.18
tert-Butylbenzene	ND		ug/l		1.0	0.18
o-Chlorotoluene	ND		ug/l		1.0	0.17



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/07/16 22:40

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS -	Westborough Lal	o for samp	le(s): 15-1	16 Batch:	WG881828-3	
p-Chlorotoluene	ND		ug/l	1.0	0.18	
1,2-Dibromo-3-chloropropane	ND		ug/l	1.0	0.33	
Hexachlorobutadiene	0.23	J	ug/l	0.50	0.22	
Isopropylbenzene	ND		ug/l	0.50	0.19	
p-Isopropyltoluene	ND		ug/l	0.50	0.19	
Naphthalene	ND		ug/l	1.0	0.22	
n-Propylbenzene	ND		ug/l	0.50	0.17	
1,2,3-Trichlorobenzene	ND		ug/l	1.0	0.23	
1,2,4-Trichlorobenzene	ND		ug/l	1.0	0.22	
1,3,5-Trimethylbenzene	ND		ug/l	1.0	0.17	
1,3,5-Trichlorobenzene	ND		ug/l	1.0	0.13	
1,2,4-Trimethylbenzene	ND		ug/l	1.0	0.19	
trans-1,4-Dichloro-2-butene	ND		ug/l	2.5	0.17	
Ethyl ether	ND		ug/l	1.0	0.15	
Diisopropyl Ether	ND		ug/l	1.0	0.42	
Tert-Butyl Alcohol	ND		ug/l	10	0.90	
Ethyl-Tert-Butyl-Ether	ND		ug/l	1.0	0.18	
Tertiary-Amyl Methyl Ether	ND		ug/l	1.0	0.28	
1,4-Dioxane	ND		ug/l	250	41.	
Freon-113	ND		ug/l	10	0.15	

		Acceptance	
%Recovery	Qualifier	Criteria	
115		70-130	
105		70-130	
117		70-130	
93		70-130	
	115 105 117	%Recovery Qualifier 115 105 117	115 70-130 105 70-130 117 70-130



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/08/16 11:33

Parameter	Result	Qualifier Units	s RL	MDL	
Volatile Organics by GC/MS	- Westborough Lab	for sample(s):	01-14 Batch:	WG882145-3	
Methylene chloride	ND	ug/l	3.0	0.29	
1,1-Dichloroethane	ND	ug/l	0.75	0.21	
Chloroform	ND	ug/l	0.75	0.16	
Carbon tetrachloride	ND	ug/l	0.50	0.13	
1,2-Dichloropropane	ND	ug/l	1.0	0.13	
Dibromochloromethane	ND	ug/l	0.50	0.15	
1,1,2-Trichloroethane	ND	ug/l	0.75	0.14	
Tetrachloroethene	ND	ug/l	0.50	0.18	
Chlorobenzene	ND	ug/l	0.50	0.18	
Trichlorofluoromethane	ND	ug/l	1.0	0.16	
1,2-Dichloroethane	ND	ug/l	0.50	0.13	
1,1,1-Trichloroethane	ND	ug/l	0.50	0.16	
Bromodichloromethane	ND	ug/l	0.50	0.19	
trans-1,3-Dichloropropene	ND	ug/l	0.50	0.16	
cis-1,3-Dichloropropene	ND	ug/l	0.50	0.14	
1,3-Dichloropropene, Total	ND	ug/l	0.50	0.14	
1,1-Dichloropropene	ND	ug/l	1.0	0.17	
Bromoform	ND	ug/l	1.0	0.25	
1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	0.14	
Benzene	ND	ug/l	0.50	0.16	
Toluene	ND	ug/l	0.75	0.16	
Ethylbenzene	ND	ug/l	0.50	0.17	
Chloromethane	ND	ug/l	2.0	0.18	
Bromomethane	ND	ug/l	1.0	0.26	
Vinyl chloride	ND	ug/l	0.20	0.07	
Chloroethane	ND	ug/l	1.0	0.13	
1,1-Dichloroethene	ND	ug/l	0.50	0.14	
trans-1,2-Dichloroethene	ND	ug/l	0.75	0.16	
1,2-Dichloroethene, Total	ND	ug/l	0.50	0.16	



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/08/16 11:33

Parameter	Result	Qualifier Units	RL RL	MDL	
Volatile Organics by GC/MS	- Westborough Lab	for sample(s):	01-14 Batch:	WG882145-3	
Trichloroethene	ND	ug/l	0.50	0.18	
1,2-Dichlorobenzene	ND	ug/l	1.0	0.18	
1,3-Dichlorobenzene	ND	ug/l	1.0	0.19	
1,4-Dichlorobenzene	ND	ug/l	1.0	0.19	
Methyl tert butyl ether	ND	ug/l	1.0	0.16	
p/m-Xylene	ND	ug/l	1.0	0.33	
o-Xylene	ND	ug/l	1.0	0.33	
Xylenes, Total	ND	ug/l	1.0	0.33	
cis-1,2-Dichloroethene	ND	ug/l	0.50	0.19	
Dibromomethane	ND	ug/l	1.0	0.36	
1,2,3-Trichloropropane	ND	ug/l	1.0	0.18	
Dichlorodifluoromethane	ND	ug/l	2.0	0.24	
Acetone	ND	ug/l	5.0	1.5	
Carbon disulfide	ND	ug/l	1.0	0.30	
2-Butanone	ND	ug/l	5.0	1.9	
4-Methyl-2-pentanone	ND	ug/l	5.0	0.42	
2-Hexanone	ND	ug/l	5.0	0.52	
Acrylonitrile	ND	ug/l	5.0	0.43	
Bromochloromethane	ND	ug/l	1.0	0.14	
Tetrahydrofuran	ND	ug/l	2.0	0.52	
2,2-Dichloropropane	ND	ug/l	1.0	0.20	
1,2-Dibromoethane	ND	ug/l	1.0	0.19	
1,3-Dichloropropane	ND	ug/l	1.0	0.21	
1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	0.16	
Bromobenzene	ND	ug/l	1.0	0.15	
n-Butylbenzene	ND	ug/l	0.50	0.19	
sec-Butylbenzene	ND	ug/l	0.50	0.18	
tert-Butylbenzene	ND	ug/l	1.0	0.18	
o-Chlorotoluene	ND	ug/l	1.0	0.17	



Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C Analytical Date: 04/08/16 11:33

Parameter	Result	Qualifier Units	RL	MDL	
Volatile Organics by GC/MS -	Westborough Lab	for sample(s):	01-14 Batch:	WG882145-3	
p-Chlorotoluene	ND	ug/l	1.0	0.18	
1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	0.33	
Hexachlorobutadiene	ND	ug/l	0.50	0.22	
Isopropylbenzene	ND	ug/l	0.50	0.19	
p-Isopropyltoluene	ND	ug/l	0.50	0.19	
Naphthalene	ND	ug/l	1.0	0.22	
n-Propylbenzene	ND	ug/l	0.50	0.17	
1,2,3-Trichlorobenzene	ND	ug/l	1.0	0.23	
1,2,4-Trichlorobenzene	ND	ug/l	1.0	0.22	
1,3,5-Trimethylbenzene	ND	ug/l	1.0	0.17	
1,3,5-Trichlorobenzene	ND	ug/l	1.0	0.13	
1,2,4-Trimethylbenzene	ND	ug/l	1.0	0.19	
trans-1,4-Dichloro-2-butene	ND	ug/l	2.5	0.17	
Ethyl ether	ND	ug/l	1.0	0.15	
Diisopropyl Ether	ND	ug/l	1.0	0.42	
Tert-Butyl Alcohol	ND	ug/l	10	0.90	
Ethyl-Tert-Butyl-Ether	ND	ug/l	1.0	0.18	
Tertiary-Amyl Methyl Ether	ND	ug/l	1.0	0.28	
1,4-Dioxane	ND	ug/l	250	41.	
Freon-113	ND	ug/l	10	0.15	

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
1,2-Dichloroethane-d4	117		70-130	
Toluene-d8	106		70-130	
4-Bromofluorobenzene	116		70-130	
Dibromofluoromethane	94		70-130	



Project Name: L&RR **Project Number:**

224263

Lab Number:

L1609965

Report Date:

	LCS		LCSI			%Recovery			RPD	
Parameter	%Recovery	Qual	%Recov	ery	Qual	Limits	RPD	Qual	Limits	Column
Microextractables by GC - Westborough Lab	Associated sam	ple(s):	01-07,14-15 E	Batch:	WG881277-2	2				
1,2-Dibromoethane	103		-			70-130	-		20	Α
1,2-Dibromo-3-chloropropane	104		-			70-130	-		20	Α



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	15-16 Batch:	WG881828-1	WG881828-2			
Methylene chloride	96		96		70-130	0		20
1,1-Dichloroethane	121		119		70-130	2		20
Chloroform	103		102		70-130	1		20
Carbon tetrachloride	102		99		63-132	3		20
1,2-Dichloropropane	114		113		70-130	1		20
Dibromochloromethane	93		94		63-130	1		20
1,1,2-Trichloroethane	102		102		70-130	0		20
2-Chloroethylvinyl ether	83		90		70-130	8		20
Tetrachloroethene	87		84		70-130	4		20
Chlorobenzene	97		96		75-130	1		25
Trichlorofluoromethane	102		98		62-150	4		20
1,2-Dichloroethane	111		113		70-130	2		20
1,1,1-Trichloroethane	104		100		67-130	4		20
Bromodichloromethane	99		99		67-130	0		20
trans-1,3-Dichloropropene	104		106		70-130	2		20
cis-1,3-Dichloropropene	102		101		70-130	1		20
1,1-Dichloropropene	110		107		70-130	3		20
Bromoform	95		100		54-136	5		20
1,1,2,2-Tetrachloroethane	108		111		67-130	3		20
Benzene	103		102		70-130	1		25
Toluene	99		97		70-130	2		25



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Report Date:

arameter	LCS %Recovery	Qual	LCSD %Recover	y Qual	%Recovery Limits	RPD	Qual	RPD Limits
platile Organics by GC/MS - Westborough	Lab Associated	sample(s):	15-16 Batch	: WG881828-1	WG881828-2			
Ethylbenzene	106		104		70-130	2		20
Chloromethane	108		105		64-130	3		20
Bromomethane	60		60		39-139	0		20
Vinyl chloride	106		104		55-140	2		20
Chloroethane	114		111		55-138	3		20
1,1-Dichloroethene	96		92		61-145	4		25
trans-1,2-Dichloroethene	96		93		70-130	3		20
Trichloroethene	97		96		70-130	1		25
1,2-Dichlorobenzene	96		97		70-130	1		20
1,3-Dichlorobenzene	97		97		70-130	0		20
1,4-Dichlorobenzene	97		97		70-130	0		20
Methyl tert butyl ether	102		105		63-130	3		20
p/m-Xylene	102		100		70-130	2		20
o-Xylene	101		99		70-130	2		20
cis-1,2-Dichloroethene	94		93		70-130	1		20
Dibromomethane	94		96		70-130	2		20
1,4-Dichlorobutane	138	Q	141	Q	70-130	2		20
1,2,3-Trichloropropane	120		124		64-130	3		20
Styrene	97		97		70-130	0		20
Dichlorodifluoromethane	100		95		36-147	5		20
Acetone	113		123		58-148	8		20



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s):	15-16 Batch:	WG881828-1	WG881828-2		
Carbon disulfide	98		95		51-130	3	20
2-Butanone	121		126		63-138	4	20
Vinyl acetate	136	Q	138	Q	70-130	1	20
4-Methyl-2-pentanone	105		106		59-130	1	20
2-Hexanone	125		126		57-130	1	20
Ethyl methacrylate	98		100		70-130	2	20
Acrolein	113		112		70-130	1	20
Acrylonitrile	123		129		70-130	5	20
Bromochloromethane	91		90		70-130	1	20
Tetrahydrofuran	128		131	Q	58-130	2	20
2,2-Dichloropropane	136	Q	132		63-133	3	20
1,2-Dibromoethane	93		95		70-130	2	20
1,3-Dichloropropane	107		110		70-130	3	20
1,1,1,2-Tetrachloroethane	94		95		64-130	1	20
Bromobenzene	94		95		70-130	1	20
n-Butylbenzene	116		114		53-136	2	20
sec-Butylbenzene	111		108		70-130	3	20
tert-Butylbenzene	107		104		70-130	3	20
o-Chlorotoluene	120		119		70-130	1	20
p-Chlorotoluene	116		115		70-130	1	20
1,2-Dibromo-3-chloropropane	124		126		41-144	2	20



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits	
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	15-16 Batch: W	'G881828-1	WG881828-2			
Hexachlorobutadiene	95		94		63-130	1	20	
Isopropylbenzene	112		110		70-130	2	20	
p-Isopropyltoluene	107		105		70-130	2	20	
Naphthalene	104		103		70-130	1	20	
n-Propylbenzene	117		114		69-130	3	20	
1,2,3-Trichlorobenzene	94		94		70-130	0	20	
1,2,4-Trichlorobenzene	93		92		70-130	1	20	
1,3,5-Trimethylbenzene	112		110		64-130	2	20	
1,3,5-Trichlorobenzene	95		95		70-130	0	20	
1,2,4-Trimethylbenzene	111		110		70-130	1	20	
trans-1,4-Dichloro-2-butene	112		116		70-130	4	20	
Halothane	91		89		70-130	2	20	
Ethyl ether	99		101		59-134	2	20	
Tert-Butyl Alcohol	141	Q	143	Q	70-130	1	20	
p-Diethylbenzene	107		104		70-130	3	20	
4-Ethyltoluene	114		114		70-130	0	20	
1,2,4,5-Tetramethylbenzene	108		108		70-130	0	20	



Project Name: L&RR

Lab Number:

L1609965

Project Number: 224263 Report Date:

04/12/16

	LCS		LCSD		%Recovery			RPD
Parameter	%Recovery	Qual	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 15-16 Batch: WG881828-1 WG881828-2

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
1,2-Dichloroethane-d4	119		114		70-130	
Toluene-d8	105		106		70-130	
4-Bromofluorobenzene	116		117		70-130	
Dibromofluoromethane	97		96		70-130	



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

arameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
olatile Organics by GC/MS - Westboroug	gh Lab Associated	sample(s):	01-14 Batch:	WG882145-1	WG882145-2			
Methylene chloride	101		101		70-130	0		20
1,1-Dichloroethane	125		125		70-130	0		20
Chloroform	106		105		70-130	1		20
Carbon tetrachloride	103		101		63-132	2		20
1,2-Dichloropropane	118		117		70-130	1		20
Dibromochloromethane	98		99		63-130	1		20
1,1,2-Trichloroethane	106		109		70-130	3		20
2-Chloroethylvinyl ether	95		97		70-130	2		20
Tetrachloroethene	86		86		70-130	0		20
Chlorobenzene	99		100		75-130	1		25
Trichlorofluoromethane	101		100		62-150	1		20
1,2-Dichloroethane	118		117		70-130	1		20
1,1,1-Trichloroethane	105		105		67-130	0		20
Bromodichloromethane	104		103		67-130	1		20
trans-1,3-Dichloropropene	110		111		70-130	1		20
cis-1,3-Dichloropropene	105		106		70-130	1		20
1,1-Dichloropropene	112		110		70-130	2		20
Bromoform	102		104		54-136	2		20
1,1,2,2-Tetrachloroethane	115		117		67-130	2		20
Benzene	106		106		70-130	0		25
Toluene	102		101		70-130	1		25



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s):	01-14 Batch:	WG882145-1	WG882145-2			
Ethylbenzene	109		108		70-130	1		20
Chloromethane	112		110		64-130	2		20
Bromomethane	64		63		39-139	2		20
Vinyl chloride	109		108		55-140	1		20
Chloroethane	116		115		55-138	1		20
1,1-Dichloroethene	97		96		61-145	1		25
trans-1,2-Dichloroethene	98		97		70-130	1		20
Trichloroethene	101		100		70-130	1		25
1,2-Dichlorobenzene	100		102		70-130	2		20
1,3-Dichlorobenzene	100		101		70-130	1		20
1,4-Dichlorobenzene	101		100		70-130	1		20
Methyl tert butyl ether	108		109		63-130	1		20
p/m-Xylene	104		104		70-130	0		20
o-Xylene	103		103		70-130	0		20
cis-1,2-Dichloroethene	98		97		70-130	1		20
Dibromomethane	101		101		70-130	0		20
1,4-Dichlorobutane	147	Q	149	Q	70-130	1		20
1,2,3-Trichloropropane	126		129		64-130	2		20
Styrene	101		101		70-130	0		20
Dichlorodifluoromethane	100		98		36-147	2		20
Acetone	129		128		58-148	1		20



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s):	01-14 Batch:	WG882145-1	WG882145-2		
Carbon disulfide	101		99		51-130	2	20
2-Butanone	120		125		63-138	4	20
Vinyl acetate	142	Q	146	Q	70-130	3	20
4-Methyl-2-pentanone	110		112		59-130	2	20
2-Hexanone	129		134	Q	57-130	4	20
Ethyl methacrylate	101		103		70-130	2	20
Acrolein	115		115		70-130	0	20
Acrylonitrile	133	Q	136	Q	70-130	2	20
Bromochloromethane	94		94		70-130	0	20
Tetrahydrofuran	141	Q	143	Q	58-130	1	20
2,2-Dichloropropane	140	Q	138	Q	63-133	1	20
1,2-Dibromoethane	97		99		70-130	2	20
1,3-Dichloropropane	113		114		70-130	1	20
1,1,1,2-Tetrachloroethane	99		98		64-130	1	20
Bromobenzene	98		98		70-130	0	20
n-Butylbenzene	119		119		53-136	0	20
sec-Butylbenzene	113		113		70-130	0	20
tert-Butylbenzene	109		108		70-130	1	20
o-Chlorotoluene	123		124		70-130	1	20
p-Chlorotoluene	120		120		70-130	0	20
1,2-Dibromo-3-chloropropane	131		135		41-144	3	20



Project Name: L&RR
Project Number: 224263

Lab Number: L1609965

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits	
Volatile Organics by GC/MS - Westborough L	ab Associated	sample(s):	01-14 Batch: V	VG882145-1	WG882145-2			
Hexachlorobutadiene	98		98		63-130	0	20	
Isopropylbenzene	114		114		70-130	0	20	
p-Isopropyltoluene	109		109		70-130	0	20	
Naphthalene	104		108		70-130	4	20	
n-Propylbenzene	119		120		69-130	1	20	
1,2,3-Trichlorobenzene	95		99		70-130	4	20	
1,2,4-Trichlorobenzene	95		97		70-130	2	20	
1,3,5-Trimethylbenzene	114		114		64-130	0	20	
1,3,5-Trichlorobenzene	98		98		70-130	0	20	
1,2,4-Trimethylbenzene	114		114		70-130	0	20	
trans-1,4-Dichloro-2-butene	120		120		70-130	0	20	
Halothane	94		92		70-130	2	20	
Ethyl ether	103		104		59-134	1	20	
Tert-Butyl Alcohol	146	Q	148	Q	70-130	1	20	
p-Diethylbenzene	109		109		70-130	0	20	
4-Ethyltoluene	118		117		70-130	1	20	
1,2,4,5-Tetramethylbenzene	111		112		70-130	1	20	



Lab Control Sample Analysis

Project Name: L&RR

Project Number:

L&RR 224263 Batch Quality Control

Lab Number:

L1609965

04/12/16

Report Date:

LCS LCSD %Recovery RPD Parameter %Recovery Qual %Recovery Qual Limits RPD Qual Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 Batch: WG882145-1 WG882145-2

	LCS		LCSD		Acceptance	
Surrogate	%Recovery	Qual	%Recovery	Qual	Criteria	
1,2-Dichloroethane-d4	117		117		70-130	
Toluene-d8	105		105		70-130	
4-Bromofluorobenzene	117		118		70-130	
Dibromofluoromethane	97		96		70-130	



Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	<u>Colum</u> n
Microextractables by GC - CW-5B	Westborough Lal	o Associated	I sample(s): 0)1-07,14-15 (QC Batch	ID: WG881	277-3 WG881	277-4	QC Sample:	: L1609	965-06	Client II	D:
1,2-Dibromoethane	ND	0.259	0.266	103		0.299	114		70-130	12		20	Α
1,2-Dibromo-3-chloropropane	ND	0.259	0.269	104		0.273	104		70-130	1		20	Α



Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	RPD Qual Limits
Volatile Organics by GC/MS - 5B	- Westborough	Lab Associa	ated sample(s): 01-14 QC E	Batch ID:	WG882145	5-4 WG882145	5-5 QC	C Sample: L1	1609965	5-06 Client ID: CW-
Methylene chloride	ND	10	10	104		11	110		70-130	10	20
1,1-Dichloroethane	ND	10	13	134	Q	14	141	Q	70-130	7	20
Chloroform	ND	10	11	111		12	117		70-130	9	20
Carbon tetrachloride	ND	10	10	103		11	110		63-132	10	20
1,2-Dichloropropane	ND	10	12	122		13	128		70-130	8	20
Dibromochloromethane	ND	10	9.6	96		10	101		63-130	4	20
1,1,2-Trichloroethane	ND	10	11	109		11	114		70-130	0	20
2-Chloroethylvinyl ether	ND	10	ND	0	Q	ND	0	Q	70-130	NC	20
Tetrachloroethene	1.9	10	10	83		11	87		70-130	10	20
Chlorobenzene	ND	10	10	100		10	105		75-130	0	25
Trichlorofluoromethane	ND	10	11	107		11	110		62-150	0	20
1,2-Dichloroethane	ND	10	12	122		13	127		70-130	8	20
1,1,1-Trichloroethane	ND	10	11	108		11	114		67-130	0	20
Bromodichloromethane	ND	10	11	106		11	112		67-130	0	20
trans-1,3-Dichloropropene	ND	10	11	107		11	113		70-130	0	20
cis-1,3-Dichloropropene	ND	10	10	103		11	108		70-130	10	20
1,1-Dichloropropene	ND	10	11	113		12	119		70-130	9	20
Bromoform	ND	10	9.7	97		10	105		54-136	3	20
1,1,2,2-Tetrachloroethane	ND	10	12	117		12	123		67-130	0	20
Benzene	ND	10	11	110		12	116		70-130	9	25
Toluene	ND	10	10	102		11	108		70-130	10	25

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual Found	MSD %Recovery	Recovery Qual Limits	RPD	RPD Qual Limits		
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG882145-4 WG882145-5 QC Sample: L1609965-06 Client ID: CW-5B											
Ethylbenzene	ND	10	11	108	11	113	70-130	0	20		
Chloromethane	ND	10	12	122	13	128	64-130	8	20		
Bromomethane	ND	10	5.4	55	6.5	65	39-139	18	20		
Vinyl chloride	ND	10	12	118	12	124	55-140	0	20		
Chloroethane	ND	10	13	128	13	133	55-138	0	20		
1,1-Dichloroethene	ND	10	10	102	11	106	61-145	10	25		
trans-1,2-Dichloroethene	ND	10	10	101	11	107	70-130	10	20		
Trichloroethene	ND	10	10	102	11	108	70-130	10	25		
1,2-Dichlorobenzene	ND	10	9.9	99	10	105	70-130	1	20		
1,3-Dichlorobenzene	ND	10	9.7	98	10	105	70-130	3	20		
1,4-Dichlorobenzene	ND	10	9.8	98	10	104	70-130	2	20		
Methyl tert butyl ether	ND	10	11	110	11	115	63-130	0	20		
p/m-Xylene	ND	20	20	102	22	108	70-130	10	20		
o-Xylene	ND	20	20	103	22	109	70-130	10	20		
cis-1,2-Dichloroethene	ND	10	10	102	11	106	70-130	10	20		
Dibromomethane	ND	10	10	100	10	105	70-130	0	20		
1,4-Dichlorobutane	ND	10	15	149	Q 16	157	Q 70-130	6	20		
1,2,3-Trichloropropane	ND	10	13	128	13	133	Q 64-130	0	20		
Styrene	ND	20	20	99	21	105	70-130	5	20		
Dichlorodifluoromethane	2.6	10	12	99	12	99	36-147	0	20		
Acetone	2.6J	10	19	188	Q 19	187	Q 58-148	0	20		

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS 5B	S - Westborough	Lab Associa	ated sample(s): 01-14 QC E	Batch ID:	WG882145	5-4 WG88214	5-5 Q(Sample: L	1609965	5-06 C	lient ID: CW-
Carbon disulfide	ND	10	10	103		11	108		51-130	10		20
2-Butanone	ND	10	14	140	Q	13	131		63-138	7		20
Vinyl acetate	ND	10	15	147	Q	15	154	Q	70-130	0		20
4-Methyl-2-pentanone	ND	10	11	110		12	115		59-130	9		20
2-Hexanone	ND	10	13	129		14	140	Q	57-130	7		20
Ethyl methacrylate	ND	10	10	104		11	109		70-130	10		20
Acrolein	ND	10	11	110		12	118		70-130	9		20
Acrylonitrile	ND	10	13	134	Q	14	143	Q	70-130	7		20
Bromochloromethane	ND	10	9.6	96		10	101		70-130	4		20
Tetrahydrofuran	ND	10	14	138	Q	15	149	Q	58-130	7		20
2,2-Dichloropropane	ND	10	13	132		14	137	Q	63-133	7		20
1,2-Dibromoethane	ND	10	9.7	97		10	101		70-130	3		20
1,3-Dichloropropane	ND	10	11	115		12	120		70-130	9		20
1,1,1,2-Tetrachloroethane	ND	10	9.7	97		10	103		64-130	3		20
Bromobenzene	ND	10	9.6	96		10	102		70-130	4		20
n-Butylbenzene	ND	10	11	115		12	123		53-136	9		20
sec-Butylbenzene	ND	10	11	111		12	117		70-130	9		20
tert-Butylbenzene	ND	10	11	106		11	113		70-130	0		20
o-Chlorotoluene	ND	10	12	123		13	130		70-130	8		20
o-Chlorotoluene	ND	10	12	117		12	125		70-130	0		20
1,2-Dibromo-3-chloropropane	ND	10	10	102		14	136		41-144	33	Q	20

Matrix Spike Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

70-130

04/12/16

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual Found	MSD %Recovery	Recovery Qual Limits	RPD	RPD Qual Limits
Volatile Organics by GC/Mi	S - Westborough	n Lab Associa	ated sample(s): 01-14 QC E	Batch ID: WG882145	-4 WG88214	5-5 QC Sample: L	160996	5-06 Client ID: CW-
Hexachlorobutadiene	ND	10	7.9	79	9.2	92	63-130	15	20
sopropylbenzene	ND	10	11	113	12	119	70-130	9	20
p-Isopropyltoluene	ND	10	11	106	11	112	70-130	0	20
Naphthalene	0.24J	10	9.7	97	11	108	70-130	13	20
n-Propylbenzene	ND	10	12	117	12	124	69-130	0	20
1,2,3-Trichlorobenzene	ND	10	8.8	88	9.7	97	70-130	10	20
1,2,4-Trichlorobenzene	ND	10	8.8	88	9.8	98	70-130	11	20
1,3,5-Trimethylbenzene	ND	10	11	113	12	120	64-130	9	20
1,3,5-Trichlorobenzene	ND	10	9.1	91	10	100	70-130	9	20
1,2,4-Trimethylbenzene	ND	10	11	113	12	119	70-130	9	20
trans-1,4-Dichloro-2-butene	ND	10	12	115	12	120	70-130	0	20
Halothane	ND	10	9.6	96	10	102	70-130	4	30
Ethyl ether	ND	10	11	106	11	113	59-134	0	20
Tert-Butyl Alcohol	8.8J	50	62	124	73	146	Q 70-130	16	20
o-Diethylbenzene	ND	10	10	105	11	112	70-130	10	20
4-Ethyltoluene	ND	10	12	115	12	122	70-130	0	20
1,2,4,5-Tetramethylbenzene	ND	10	11	107	12	115	70-130	9	20

	MS	MSD	Acceptance
Surrogate	% Recovery Qualifier	% Recovery Qualifier	Criteria

1,2-Dichloroethane-d4 119 117



Matrix Spike Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

04/12/16

	Native	MS	MS	MS		MSD	MSD		Recovery			RPD
Parameter	Sample	Added	Found	%Recovery	Qual	Found	%Recovery	Qual	Limits	RPD	Qual	Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-14 QC Batch ID: WG882145-4 WG882145-5 QC Sample: L1609965-06 Client ID: CW-58

	MS	MSD	Acceptance	
Surrogate	% Recovery Qualifie	er % Recovery Qualifier	Criteria	
4-Bromofluorobenzene	117	119	70-130	
Dibromofluoromethane	98	97	70-130	
Toluene-d8	105	105	70-130	



SEMIVOLATILES



Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-01 Client ID: MW-201

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/08/16 22:34

Analyst: SF Date Collected: 04/05/16 08:52 Date Received: 04/05/16 Field Prep: Not Specified Extraction Method: EPA 3510C 04/08/16 09:06

Extraction Date:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	17		15-110	

Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-02

Client ID: MW-202

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/08/16 23:20

Analyst: SF Date Collected: 04/05/16 07:47

Date Received: 04/05/16 Field Prep: Not Specified Extraction Method: EPA 3510C

04/08/16 09:06 Extraction Date:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	16		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-03 Date Collected: 04/05/16 11:12

Client ID: MW-102A Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 1,8270D-SIM Extraction Date: 04/11/16 10:00
Analytical Date: 04/11/16 20:35

Analyst: SF

Parameter Result Qualifier Units RL MDL Dilution Factor

1,4 Dioxane by 8270D-SIM - Mansfield Lab

1,4-Dioxane 0.375 ug/l 0.150 0.0750 1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	29		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-04
Client ID: MW-103A

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 00:06

Analyst: SF

Date Collected: 04/05/16 15:27
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	1.96		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	16		15-110	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-05
Client ID: MW-104A

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 00:51

Analyst: SF

Date Collected: 04/05/16 14:22
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	102.		ug/l	0.147	0.0735	1

Surrogate	rogate % Recovery		Acceptance Criteria	
1,4-Dioxane-d8	17		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-06

Client ID: CW-5B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/12/16 13:08

Analyst: SF

Date Collected: 04/05/16 09:52
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C

Extraction Date:

04/11/16 16:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.144	0.0721	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	19		15-110	

Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-07

Client ID: CW-7B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date:

Analyst: SF Date Collected: 04/05/16 12:42 Date Received: 04/05/16 Field Prep: Not Specified Extraction Method: EPA 3510C

04/11/16 16:00 Extraction Date: 04/12/16 15:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	4.23		ug/l	0.144	0.0721	1
			۸۵	contanco		

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	20		15-110	



Project Name: Lab Number: L&RR L1609965

Project Number: Report Date: 224263 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-08

Client ID: **SW-5**

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 06:07

Analyst: SF Date Collected: 04/05/16 14:45 Date Received: 04/05/16 Field Prep: Not Specified Extraction Method: EPA 3510C 04/08/16 09:06

Extraction Date:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.159		ug/l	0.153	0.0765	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria		
1,4-Dioxane-d8	17		15-110		



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-09

Client ID: SW-8

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 06:52

Analyst: SF

Date Collected: 04/05/16 11:50
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method:EPA 3510C

Extraction Date:

04/08/16 09:06

Result	Qualifier	Units	RL	MDL	Dilution Factor
7.13		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	18		15-110	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-10

Client ID: SW-10

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 07:38

Analyst: SF

Date Collected: 04/05/16 13:18

Date Received: 04/05/16

Field Prep: Not Specified

Extraction Method: EPA 3510C

Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	19.6		ug/l	0.150	0.0750	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	17		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-11

Client ID: SW-16

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 08:24

Analyst: SF

Date Collected: 04/05/16 13:28

Date Received: 04/05/16

Field Prep: Not Specified

Extraction Method: EPA 3510C

Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	6.17		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	18		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-12

Client ID: LCH-3

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 09:09

Analyst: SF

Date Collected: 04/05/16 13:42
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.170	0.0852	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	20		15-110	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-13

Client ID: LCH-5

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/09/16 09:55

Analyst: SF

Date Collected: 04/05/16 10:30
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	2.22		ug/l	0.147	0.0735	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	18		15-110	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-14

Client ID: DUP-1

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Analytical Method: 1,8270D-SIM Analytical Date: 04/11/16 21:18

Analyst: SF

Date Collected: 04/05/16 11:12
Date Received: 04/05/16
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 04/11/16 10:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	0.386		ug/l	0.142	0.0708	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	30		15-110	

Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

SAMPLE RESULTS

Lab ID: L1609965-15 Date Collected: 04/05/16 13:55

Client ID: EQUIPMENT BLANK Date Received: 04/05/16
Sample Location: NORTH SMITHFIELD, RI Field Prep: Not Specified

Matrix: Water Extraction Method: EPA 3510C

Analytical Method: 1,8270D-SIM Extraction Date: 04/08/16 09:06
Analytical Date: 04/09/16 10:41

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
1,4 Dioxane by 8270D-SIM - Mansfield Lab						
1,4-Dioxane	ND		ug/l	0.156	0.0781	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
1,4-Dioxane-d8	17		15-110	



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM Extraction Method: EPA 3510C
Analytical Date: 04/08/16 17:57 Extraction Date: 04/08/16 09:06

Parameter	Result	Qualifier	Units	RL	MDL	
1,4 Dioxane by 8270D-SIM - Mansfi	eld Lab for	sample(s):	01-02,04-0	5,08-13,15	Batch:	WG881638-
1,4-Dioxane	ND		ug/l	0.150	0.0750	

			Acceptance	
Surrogate	%Recovery	Qualifier	Criteria	
4.4 Diamas d0	00		45.440	
1,4-Dioxane-d8	22		15-110	



Project Name:L&RRLab Number:L1609965

Project Number: 224263 Report Date: 04/12/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM Extraction Method: EPA 3510C
Analytical Date: 04/11/16 18:25 Extraction Date: 04/11/16 10:00

Parameter	Result	Qualifier	Units	RL	MDL	
1,4 Dioxane by 8270D-SIM - Mansf	ield Lab fo	sample(s):	03,14	Batch: WG88	32232-1	
1,4-Dioxane	ND		ug/l	0.150	0.0750	

		Acceptance						
Surrogate	%Recovery	Qualifier	Criteria					
1,4-Dioxane-d8	33		15-110					



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D-SIM Extraction Method: EPA 3510C
Analytical Date: 04/12/16 10:50 Extraction Date: 04/11/16 13:15

Parameter	Result	Qualifier	Units	RL	MDL	
1,4 Dioxane by 8270D-SIM - Mansfi	eld Lab foi	r sample(s):	06-07	Batch: W	/G882381-1	
1,4-Dioxane	ND		ug/l	0.150	0.0750	

		Acceptance						
Surrogate	%Recovery	Qualifier	Criteria					
1,4-Dioxane-d8	28		15-110					



Lab Control Sample Analysis Batch Quality Control

Project Name: L&RR

Lab Number:

L1609965

Project Number: 224263 Report Date:

04/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recover Limits	y RPD	Qual	RPD Limits	
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated sample	(s): 01	-02,04-05,08-13,15	Batch:	WG881638-2	WG881638-3			
1,4-Dioxane	120		122		40-140	2		30	

Surrogate	LCS %Recovery			Qual	Acceptance Criteria
1,4-Dioxane-d8	23		21		15-110



Lab Control Sample Analysis Batch Quality Control

Project Name: L&RR Batch Quality Cor

Lab Number:

L1609965

Report Date:

04/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated samp	le(s): 03,14	Batch: WG88	2232-2 W	G882232-3			
1,4-Dioxane	115		115		40-140	0		30

Surrogate	LCS gate %Recovery Qual		LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	33		33		15-110



Project Number:

224263

Lab Control Sample Analysis Batch Quality Control

Project Name: L&RR **Project Number:** 224263

Lab Number:

L1609965

Report Date:

04/12/16

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
1,4 Dioxane by 8270D-SIM - Mansfield Lab	Associated samp	le(s): 06-07	Batch: WG88	32381-2 W	G882381-3			
1,4-Dioxane	118		117		40-140	1		30

Surrogate	LCS ogate %Recovery Qual		LCSD %Recovery	Qual	Acceptance Criteria
1,4-Dioxane-d8	26		28		15-110



Matrix Spike Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number:

L1609965

Report Date:

04/12/16

Doromotor	Native Sample	MS Added	MS Found	MS %Recoverv		ISD ound	MSD %Recovery		Recovery Limits	RPD	Qual	RPD Limits
Parameter					-,			-,				
1,4 Dioxane by 8270D-SIM -	Mansfield Lab	Associated	sample(s): 06-0	7 QC Batch	ID: WG88238	81-4	WG882381-5	QC Samp	ole: L16099	965-06	Client	ID: CW-5B
1,4-Dioxane	ND	4.81	5.70	119	!	5.61	119		40-140	2		30

	MS	MSD	Acceptance	
Surrogate	% Recovery Qualifier	% Recovery Qualifier	Criteria	
1,4-Dioxane-d8	23	22	15-110	

Project Name:L&RRLab Number:L1609965Project Number:224263Report Date:04/12/16

Sample Receipt and Container Information

Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

A Absent B Absent

Container Info			Temp				
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1609965-01A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-01B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-01C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-01D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-01E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-01F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-01G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-02A	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-02B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-02C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-02D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-02E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-02F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-02G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-03A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-03A1	Vial HCl preserved	В	N/A	3.6	Υ	Absent	HOLD-8260(14)
L1609965-03B	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-03B1	Vial HCl preserved	В	N/A	3.6	Υ	Absent	HOLD-8260(14)
L1609965-03C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-03C1	Vial HCl preserved	В	N/A	3.6	Υ	Absent	HOLD-8260(14)
L1609965-03D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-03E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-03F	Amber 1000ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-03G	Amber 1000ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-04A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-04B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-04C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-04D	Vial Na2S2O3 preserved	Α	N/A	4.0	Υ	Absent	504(14)



Project Name: L&RR **Project Number:** 224263

Lab Number: L1609965 **Report Date:** 04/12/16

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	•	Pres	Seal	Analysis(*)
L1609965-04E	Vial Na2S2O3 preserved	Α	N/A	4.0	Υ	Absent	504(14)
L1609965-04F	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-04G	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-05A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-05B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-05C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-05D	Vial Na2S2O3 preserved	Α	N/A	4.0	Υ	Absent	504(14)
L1609965-05E	Vial Na2S2O3 preserved	Α	N/A	4.0	Υ	Absent	504(14)
L1609965-05F	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-05G	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06A	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06A1	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06A2	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06B1	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06B2	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06C1	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06C2	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-06D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06D1	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06D2	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06E1	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06E2	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-06F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06F1	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06F2	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06G1	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-06G2	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-07A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-07B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-07C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-07D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-07E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)



Project Name: L&RR **Project Number:** 224263

Lab Number: L1609965 **Report Date:** 04/12/16

Container Information				Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1609965-07F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-07G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-08A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-08B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-08C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-08D	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-08E	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-09A	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-09B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-09C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-09D	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-09E	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-10A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-10B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-10C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-10D	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-10E	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-11A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-11B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-11C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-11D	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-11E	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-12A	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-12B	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-12C	Vial HCl preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-12D	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-12E	Amber 500ml unpreserved	Α	7	4.0	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-13A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-13B	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-13C	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-13D	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-13E	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-14A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-14B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-14C	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-14D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)



Project Name: L&RR **Project Number:** 224263

Lab Number: L1609965 **Report Date:** 04/12/16

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1609965-14E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-14F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-14G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-14H	Vial HCI preserved	В	N/A	3.6	Υ	Absent	-
L1609965-14I	Vial HCI preserved	В	N/A	3.6	Υ	Absent	-
L1609965-14J	Vial HCI preserved	В	N/A	3.6	Υ	Absent	-
L1609965-15A	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-15B	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-15C	Vial HCI preserved	Α	N/A	4.0	Υ	Absent	ME-8260(14)
L1609965-15D	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-15E	Vial Na2S2O3 preserved	В	N/A	3.6	Υ	Absent	504(14)
L1609965-15F	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-15G	Amber 500ml unpreserved	В	7	3.6	Υ	Absent	A2-14-DIOXANESIM-PPB(7)
L1609965-16A	Vial HCl preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)
L1609965-16B	Vial HCI preserved	В	N/A	3.6	Υ	Absent	ME-8260(14)



Project Name:L&RRLab Number:L1609965Project Number:224263Report Date:04/12/16

GLOSSARY

Acronyms

EDL

- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

 Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

TIC

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: DU Report with 'J' Qualifiers



Project Name:L&RRLab Number:L1609965Project Number:224263Report Date:04/12/16

Data Qualifiers

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations
 of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: L&RR Lab Number: L1609965

Project Number: 224263 Report Date: 04/12/16

REFERENCES

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

Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. EPA/600/4-88/039, Revised July 1991.

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

Revision 6 Published Date: 2/3/2016 10:23:10 AM

ID No.:17873

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Certification Information

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

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate

(soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-

Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols EPA 9251: NPW: Chloride SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids EPA 1631E: SCM: Mercury EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: 8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A: Lead; 8270D: bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; EPA 200.7: Ba,Be,Ca,Cd,Cr,Cu,Na; EPA 245.1: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

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Alpha Analytical Job Number: L1609965

Validation was performed on the organic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" August 2014; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1609965	VOCs; 1,4-D; EDB & DBCP

VOCs=Volatile Organic Compounds by SW846 Method 8260C; 1,4-D=1,4-dioxane by SW846 Method 8270D selective ion monitoring (SIM); and EDB & DBCP=Ethylene dibromide & 1,2-dibromo-3-chloropropane by EPA Method 504.1

Field Sample ID	Accutest Laboratory ID
MW-201	L1609965-01
MW-202	L1609965-02
MW-102A	L1609965-03
MW-103A	L1609965-04
MW-104A	L1609965-05
CW-5B	L1609965-06
CW-7B	L1609965-07
SW-5	L1609965-08
SW-8	L1609965-09
SW-10	L1609965-10
SW-16	L1609965-11
LCH-3	L1609965-12
LCH-5	L1609965-13
DUP-1	L1609965-14
EQUIPMENT BLANK	L1609965-15
TRIP BLANK	L1609965-16

The data were evaluated and were based on the following parameters:

Organics

- Holding times
- Sample preservation
- Blank results
- Surrogate recoveries
- Matrix spike and matrix spike duplicate results
- Field duplicates
- Laboratory control sample (and duplicate) results

Alpha Analytical Job Number: L1609965

Organics

Holding Times

All samples for VOCs; 1,4-D; and EDB & DBCP were extracted and/or analyzed within technical holding times. No qualifications were applied to the data.

Sample Preservation

Samples were received at 3.6 and 4.0 degrees Celsius. No qualifications were applied to the data.

Blank Results

All VOCs; 1,4-D; and EDB & DBCP method blanks were non-detect (ND) for all target compounds with the following exception:

Blank ID	Compound	Concentration	Impacted Samples	Qualifier	
WG881828-3	Hexachlorobutadiene	0.23 μg/L	L1609965-15 & 16	None, samples ND	

VOCs; 1,4-D; and EDB & DBCP field blank samples, EQUIPMENT BLANK (L1609965-15) and TRIP BLANK (L1609965-16), were ND for all target compounds with the following exceptions:

Blank ID	Compound	Concentration	Impacted Samples	Qualifier
EQUIPMENT	Acetone	3.0 μg/L	All L1609965	U@RL, L1609965-01
BLANK				through -9 & -11 through -
				14
				U@RC, L1609965-10
TRIP BLANK	Acetone	2.0 μg/L	All L1609965	None, see EQUIPMENT
				BLANK

RL=reporting limit; RC=reported concentration

Surrogate Recoveries

All VOCs and 1,4-D surrogates met acceptance criteria. No qualifications were applied to the data.

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The VOCs; 1,4-D; and EDB & DBCP MS/MSD performed on sample CW-5B (L1609965-06) met acceptance criteria with the following exceptions:

Lab ID	Sample	Compound	%R/%R	QC	Qualifier
	ID			Limits	
L1609965-06	CW-5B	1,1-Dichloroethene	134/141	70-130%	None, sample ND
		1,2,3-Trichloropropane	OK/133	64-130%	None, sample ND
		Acetone	188/187	58-148%	Already "B"

Page 2 of 3

Project # 224263

Alpha Analytical Job Number: L1609965

Lab ID	Sample	Compound	%R/%R	QC	Qualifier
	ID ·			Limits	
L1609965-06	CW-5B	2-Butanone	140/OK	63-138%	None, sample ND
		2-Hexanone	OK/140	57-130%	None, sample ND
100 m		Acrylonitrile	134/143	70-130%	None, sample ND
		Tetrahydrofuran	138/149	58-130%	None, sample ND
		2,2-Dichloropropane	OK/137	63-133%	None, sample ND
		1,2-Dibromo-3-chloropropane	RPD-33	20	None, sample ND
		Tert-butyl alcohol	OK/146	70-130%	J

Field Duplicates

The VOCs; 1,4-D; and EDB & DBCP field duplicate samples MW-102A (L1609965-03)/DUP-1 (L1609965-14) met acceptance criteria. No qualifications were applied to the data.

Laboratory Control Sample (and Duplicate) Results

All VOCs; 1,4-D; and EDB & DBCP laboratory control samples (LCS) or laboratory control samples/laboratory control sample duplicates (LCS/LCSD) met acceptance criteria with the following exceptions:

LCS/LCSD	Compound	%R/%R	QC Limits	Affected	Qualifier
ID				Sample	
WG881828-	Tetrahydrofuran	OK/131	58-130%	L1609965-15	None, samples ND
1&2	2,2-Dichloropropane	136/OK	63-133%	& 16	None, samples ND
	Tert-butyl alcohol	141/143	70-130%		None, samples ND
WG882145-	2-Hexanone	OK/134	57-130%	L1609965-1	None, samples ND
1&2	Acrylonitrile	133/136	70-130%	through -14	None, samples ND
	Tetrahydrofuran	141/143	58-130%		J
	2,2-Dichloropropane	140/138	63-133%		None, samples ND
	Tert-butyl alcohol	146/148	70-130%		J

Data Check, Inc. P.O. Box 29 81 Meaderboro Road New Durham, NH 03855

Gloria J. Switalski: President

Date: 5/3/2016

Page 3 of 3

Project # 224263



ANALYTICAL REPORT

Lab Number: L1610027

Client: Woodard & Curran

40 Shattuck Road

Suite 110

Andover, MA 01810

ATTN: Samantha Olney Phone: (978) 557-8150

Project Name: L&RR
Project Number: 224263
Report Date: 04/12/16

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), VA (460195), MD (348), IL (200077), NC (666), TX (T104704476), DOD (L2217), USDA (Permit #P-330-11-00240).

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



Project Name:L&RRLab NullProject Number:224263Report

Lab Number: L1610027 **Report Date:** 04/12/16

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1610027-01	MW-201	WATER	NORTH SMITHFIELD, RI	04/05/16 08:52	04/05/16
L1610027-02	MW-202	WATER	NORTH SMITHFIELD, RI	04/05/16 07:47	04/05/16
L1610027-03	MW-102A	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1610027-04	MW-103A	WATER	NORTH SMITHFIELD, RI	04/05/16 15:27	04/05/16
L1610027-05	MW-104A	WATER	NORTH SMITHFIELD, RI	04/05/16 14:22	04/05/16
L1610027-06	CW-5B	WATER	NORTH SMITHFIELD, RI	04/05/16 09:52	04/05/16
L1610027-07	CW-7B	WATER	NORTH SMITHFIELD, RI	04/05/16 12:42	04/05/16
L1610027-08	SW-5	WATER	NORTH SMITHFIELD, RI	04/05/16 14:45	04/05/16
L1610027-09	SW-8	WATER	NORTH SMITHFIELD, RI	04/05/16 11:50	04/05/16
L1610027-10	SW-10	WATER	NORTH SMITHFIELD, RI	04/05/16 13:18	04/05/16
L1610027-11	SW-16	WATER	NORTH SMITHFIELD, RI	04/05/16 13:28	04/05/16
L1610027-12	LCH-3	WATER	NORTH SMITHFIELD, RI	04/05/16 13:42	04/05/16
L1610027-13	LCH-5	WATER	NORTH SMITHFIELD, RI	04/05/16 10:30	04/05/16
L1610027-14	DUP-1	WATER	NORTH SMITHFIELD, RI	04/05/16 11:12	04/05/16
L1610027-15	EQUIPMENT BLANK	WATER	NORTH SMITHFIELD, RI	04/05/16 13:55	04/05/16



Case Narrative

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

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

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

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

HOLD POLICY

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

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



Case Narrative (continued)

Report Submission

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

Dissolved Metals

The WG881523-3/-4 MS/MSD recoveries, performed on L1610027-06, are outside the acceptance criteria for arsenic (186%/178%), cadmium (171%/174%), and lead (174%/166%). A post digestion spike was performed and was within acceptance criteria.

The WG881523-3/-4 MS/MSD recoveries for manganese (150%/158%), performed on L1610027-06, do not apply because the sample concentration is greater than four times the spike amount added.

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

Authorized Signature:

Title: Technical Director/Representative Date: 04/12/16

600, Shawow Kelly Stenstrom

METALS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-01
Client ID: MW-201

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 08:52

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals) Prep Analytical

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westl	oorough I	Lab									
Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/16 03:10	04/11/16 23:07	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/11/16 23:07	EPA 3005A	1,6010C	PS
Iron, Total	0.0290	J	mg/l	0.0500	0.0200	1	04/07/16 03:10	04/11/16 23:07	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 23:07	EPA 3005A	1,6010C	PS
Manganese, Total	0.0021	J	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 23:07	EPA 3005A	1,6010C	PS
Dissolved Metals - V	Vestboro	ugh Lab									
Arsenic, Dissolved	ND		mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 16:00	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 16:00	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 16:00	EPA 3005A	1,6010C	PS
Manganese, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 16:00	EPA 3005A	1,6010C	PS



SAMPLE RESULTS

Lab ID: Date Collected: L1610027-02 04/05/16 07:47 Client ID: MW-202 Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered

Matrix: (Dissolved Water Metals)

									ivictais)		
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - West	borough	Lab									
Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/16 03:10	04/11/16 23:12	EPA 3005A	1,6010C	PS
Cadmium, Total	0.001	J	mg/l	0.005	0.001	1	04/07/16 03:10	04/11/16 23:12	EPA 3005A	1,6010C	PS
Iron, Total	0.0541		mg/l	0.0500	0.0200	1	04/07/16 03:10	04/11/16 23:12	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 23:12	EPA 3005A	1,6010C	PS
Manganese, Total	0.0665		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 23:12	EPA 3005A	1,6010C	PS
Dissolved Metals - \	Vestboro	ugh Lab									
Arsenic, Dissolved	ND		mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 18:06	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 18:06	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:06	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.0661		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:06	EPA 3005A	1,6010C	PS



SAMPLE RESULTS

Lab ID: Date Collected: L1610027-03 04/05/16 11:12 Client ID: MW-102A Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered

(Dissolved

Matrix: Water Metals) Analytical Dilution Date Data

Parameter	Result	Qualifier	Units	RL	MDL	Factor	Prepared	Date Analyzed	Method	Method	Analyst
Total Metals - West	borough l	_ab									
Arsenic, Total	0.008		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 00:30	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 00:30	EPA 3005A	1,6010C	PS
Iron, Total	25.		mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 00:30	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:30	EPA 3005A	1,6010C	PS
Manganese, Total	7.77		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:30	EPA 3005A	1,6010C	PS
Dissolved Metals - \	Nestboro	ugh Lab									
Arsenic, Dissolved	0.0147		mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 18:10	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 18:10	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:10	EPA 3005A	1,6010C	PS
Manganese, Dissolved	7.84		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:10	EPA 3005A	1,6010C	PS



SAMPLE RESULTS

Lab ID: Date Collected: L1610027-04 04/05/16 15:27 Client ID: MW-103A Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered Matrix: Water

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westl	oorough I	Lab									
Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 00:34	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 00:34	EPA 3005A	1,6010C	PS
Iron, Total	0.033	J	mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 00:34	EPA 3005A	1,6010C	PS
Lead, Total	0.0026	J	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:34	EPA 3005A	1,6010C	PS
Manganese, Total	0.0425		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:34	EPA 3005A	1,6010C	PS
Dissolved Metals - V	Vestboro	ugh Lab									
Arsenic, Dissolved	0.0035	J	mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 18:16	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 18:16	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:16	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.0480		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:16	EPA 3005A	1,6010C	PS



SAMPLE RESULTS

Date Collected: Lab ID: L1610027-05 04/05/16 14:22 Client ID: MW-104A Date Received: 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered Matrix:

(Dissolved Water Metals)

									iviolato		
Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - West	borough l	_ab									
Arsenic, Total	0.088		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 00:39	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 00:39	EPA 3005A	1,6010C	PS
Iron, Total	19.		mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 00:39	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:39	EPA 3005A	1,6010C	PS
Manganese, Total	0.853		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:39	EPA 3005A	1,6010C	PS
Dissolved Metals - \	Nestboro	ugh Lab									
Arsenic, Dissolved	0.0681		mg/l	0.0050	0.0020	1	04/08/16 03:28	3 04/11/16 18:21	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	3 04/11/16 18:21	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 18:21	EPA 3005A	1,6010C	PS
Manganese, Dissolved	0.768		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 18:21	EPA 3005A	1,6010C	PS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-06
Client ID: CW-5B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 09:52

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - West	borough	Lab									
Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/16 03:10	04/11/16 22:49	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/11/16 22:49	EPA 3005A	1,6010C	PS
Iron, Total	0.044	J	mg/l	0.050	0.020	1	04/07/16 03:10	04/11/16 22:49	EPA 3005A	1,6010C	PS
Lead, Total	0.0030	J	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 22:49	EPA 3005A	1,6010C	PS
Manganese, Total	3.32		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 22:49	EPA 3005A	1,6010C	PS
Dissolved Metals - \	Nestboro	ugh Lab									
Arsenic, Dissolved	ND		mg/l	0.0050	0.0020	1	04/08/16 03:28	3 04/11/16 16:05	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	3 04/11/16 16:05	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 16:05	EPA 3005A	1,6010C	PS
Manganese, Dissolved	3.14		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 16:05	EPA 3005A	1,6010C	PS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-07 Client ID: CW-7B

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 12:42

Date Received: 04/05/16
Field Prep: Field Filtered

(Dissolved

Metals)

Parameter R	esult					Dilution	Date	Date	Prep	Analytical	
i arameter iv		Qualifier	Units	RL	MDL	Factor	Prepared	Analyzed	Method	Method	Analyst
Total Metals - Westbor	ough La	b									
Arsenic, Total N	D		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 00:43	EPA 3005A	1,6010C	PS
Cadmium, Total N	D		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 00:43	EPA 3005A	1,6010C	PS
Iron, Total 4.	.1		mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 00:43	EPA 3005A	1,6010C	PS
Lead, Total N	D		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:43	EPA 3005A	1,6010C	PS
Manganese, Total 1.	.83		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 00:43	EPA 3005A	1,6010C	PS
Dissolved Metals - Wes	stboroug	h Lab									
Arsenic, Dissolved N	D		mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 18:25	EPA 3005A	1,6010C	PS
Cadmium, Dissolved N	D		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 18:25	EPA 3005A	1,6010C	PS
Lead, Dissolved N	D		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:25	EPA 3005A	1,6010C	PS
Manganese, Dissolved 1.	.38		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 18:25	EPA 3005A	1,6010C	PS



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

SAMPLE RESULTS

Lab ID: L1610027-08

Client ID: SW-5

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 14:45

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals) Dilution Date Date Prep Analytical Method **Factor Prepared** Method Analyzed **Parameter** Result Qualifier Units RL MDL Analyst

Total Metals - Westborough Lab

Arsenic, Total ND mg/l 0.005 0.002 1 04/07/16 03:10 04/12/16 00:47 EPA 3005A 1,6010C PS

Dissolved Metals - Westborough Lab

Arsenic, Dissolved ND mg/l 0.0050 0.0020 1 04/08/16 03:28 04/11/16 18:29 EPA 3005A 1,6010C PS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-09

Client ID: SW-8

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 11:50

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Wes	stborough	Lab									
Arsenic, Total	0.159		mg/l	0.005	0.002	1	04/07/16 03:1	0 04/12/16 00:52	EPA 3005A	1,6010C	PS
Dissolved Metals	- Westboro	ugh Lab									
Arsenic, Dissolved	0.0031	J	mg/l	0.0050	0.0020	1	04/08/16 03:2	8 04/11/16 18:34	EPA 3005A	1,6010C	PS



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

SAMPLE RESULTS

 Lab ID:
 L1610027-10
 Date Collected:
 04/05/16 13:18

 Client ID:
 SW-10
 Date Received:
 04/05/16

Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered

Matrix: Water (Dissolved

Metals)

Dilution Date Date Prep Analytical Method **Factor Prepared** Method Analyzed **Parameter** Result Qualifier Units RL MDL Analyst Total Metals - Westborough Lab ND 0.002 1 1,6010C Arsenic, Total mg/l 0.005 04/07/16 03:10 04/12/16 00:56 EPA 3005A PS Dissolved Metals - Westborough Lab J 1,6010C Arsenic, Dissolved 0.0039 mg/l 0.0050 0.0020 1 04/08/16 03:28 04/11/16 19:12 EPA 3005A PS



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

SAMPLE RESULTS

Lab ID: L1610027-11 Date Collected:

Client ID: SW-16 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered

Matrix: Water (Dissolved

Metals)

04/05/16 13:28

Dilution Date Date Prep Analytical Method **Factor Prepared** Method **Analyzed Parameter** Result Qualifier Units RL MDL Analyst Total Metals - Westborough Lab 0.003 J 0.002 1 1,6010C Arsenic, Total mg/l 0.005 04/07/16 03:10 04/12/16 01:01 EPA 3005A PS Dissolved Metals - Westborough Lab J 1,6010C Arsenic, Dissolved 0.0032 mg/l 0.0050 0.0020 1 04/08/16 03:28 04/11/16 19:16 EPA 3005A PS



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

SAMPLE RESULTS

Lab ID: L1610027-12

Client ID: LCH-3
Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 13:42

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved Metals)

Dilution Date Date Prep Analytical Method **Factor Prepared** Method Analyzed **Parameter** Result Qualifier Units RL MDL Analyst

Total Metals - Westborough Lab

Arsenic, Total ND mg/l 0.005 0.002 1 04/07/16 03:10 04/12/16 01:28 EPA 3005A 1,6010C PS

Dissolved Metals - Westborough Lab

Arsenic, Dissolved ND mg/l 0.0050 0.0020 1 04/08/16 03:28 04/11/16 19:20 EPA 3005A 1,6010C PS



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

SAMPLE RESULTS

Lab ID: L1610027-13 Date Collected: 04/05/16 10:30

Client ID: LCH-5 Date Received: 04/05/16 Sample Location: NORTH SMITHFIELD, RI Field Prep: Field Filtered

Water (Dissolved Metals)

Dilution Date Date Prep Analytical

Parameter Result Qualifier Units RL MDL Factor Prepared Analyzed Method Method Analyst

Total Metals - Westborough Lab

Arsenic, Total ND mg/l 0.005 0.002 1 04/07/16 03:10 04/12/16 01:32 EPA 3005A 1,6010C PS

Dissolved Metals - Westborough Lab

1

04/08/16 03:28 04/11/16 19:25 EPA 3005A

0.0020



1,6010C

PS

Matrix:

Arsenic, Dissolved

ND

mg/l

0.0050

 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-14

Client ID: DUP-1

Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 11:12

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - West	oorough l	_ab									
Arsenic, Total	0.0090		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 01:37	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 01:37	EPA 3005A	1,6010C	PS
Iron, Total	27.		mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 01:37	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 01:37	EPA 3005A	1,6010C	PS
Manganese, Total	8.43		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 01:37	EPA 3005A	1,6010C	PS
Dissolved Metals - V	Vestboro	ugh Lab									
Arsenic, Dissolved	0.0164		mg/l	0.0050	0.0020	1	04/08/16 03:28	3 04/11/16 19:29	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	3 04/11/16 19:29	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 19:29	EPA 3005A	1,6010C	PS
Manganese, Dissolved	8.01		mg/l	0.0100	0.0020	1	04/08/16 03:28	3 04/11/16 19:29	EPA 3005A	1,6010C	PS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

SAMPLE RESULTS

Lab ID: L1610027-15

Client ID: EQUIPMENT BLANK
Sample Location: NORTH SMITHFIELD, RI

Matrix: Water

Date Collected: 04/05/16 13:55

Date Received: 04/05/16 Field Prep: Field Filtered

(Dissolved

Metals)

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Westl	oorough l	_ab									
Arsenic, Total	ND		mg/l	0.005	0.002	1	04/07/16 03:10	04/12/16 01:41	EPA 3005A	1,6010C	PS
Cadmium, Total	ND		mg/l	0.005	0.001	1	04/07/16 03:10	04/12/16 01:41	EPA 3005A	1,6010C	PS
Iron, Total	ND		mg/l	0.050	0.020	1	04/07/16 03:10	04/12/16 01:41	EPA 3005A	1,6010C	PS
Lead, Total	ND		mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 01:41	EPA 3005A	1,6010C	PS
Manganese, Total	0.0041	J	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/12/16 01:41	EPA 3005A	1,6010C	PS
Dissolved Metals - V	Vestboro	ugh Lab									
Arsenic, Dissolved	ND		mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 21:20	EPA 3005A	1,6010C	PS
Cadmium, Dissolved	ND		mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 21:20	EPA 3005A	1,6010C	PS
Lead, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 21:20	EPA 3005A	1,6010C	PS
Manganese, Dissolved	ND		mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 21:20	EPA 3005A	1,6010C	PS



 Project Name:
 L&RR
 Lab Number:
 L1610027

 Project Number:
 224263
 Report Date:
 04/12/16

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	r Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Westb	orough Lab for sampl	le(s): 01-15	Batch:	WG88	1117-1				
Arsenic, Total	ND	mg/l	0.005	0.002	1	04/07/16 03:10	04/11/16 21:56	1,6010C	PS
Cadmium, Total	ND	mg/l	0.005	0.001	1	04/07/16 03:10	04/11/16 21:56	1,6010C	PS
Iron, Total	ND	mg/l	0.050	0.020	1	04/07/16 03:10	04/11/16 21:56	1,6010C	PS
Lead, Total	ND	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 21:56	1,6010C	PS
Manganese, Total	ND	mg/l	0.0100	0.0020	1	04/07/16 03:10	04/11/16 21:56	1,6010C	PS

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	l Analyst
Dissolved Metals - We	estborough Lab for sa	mple(s):	01-15 Ba	atch: W	'G881523-1				
Arsenic, Dissolved	ND	mg/l	0.0050	0.0020	1	04/08/16 03:28	04/11/16 15:43	3 1,6010C	PS
Cadmium, Dissolved	ND	mg/l	0.0050	0.0007	1	04/08/16 03:28	04/11/16 15:43	3 1,6010C	PS
Lead, Dissolved	ND	mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 15:43	3 1,6010C	PS
Manganese, Dissolved	ND	mg/l	0.0100	0.0020	1	04/08/16 03:28	04/11/16 15:43	3 1,6010C	PS

Prep Information

Digestion Method: EPA 3005A



Lab Control Sample Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number: L1610027

Report Date:

04/12/16

arameter	LCS %Recovery Q	LCSD ual %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
otal Metals - Westborough Lab Associated sar	mple(s): 01-15 Bate	ch: WG881117-2					
Arsenic, Total	101	-		80-120	-		
Cadmium, Total	104	-		80-120	-		
Iron, Total	110	-		80-120	-		
Lead, Total	102	-		80-120	-		
Manganese, Total	101	-		80-120	-		
ssolved Metals - Westborough Lab Associate	d sample(s): 01-15	Batch: WG881523-2					
Arsenic, Dissolved	106	-		80-120	-		
Cadmium, Dissolved	104	-		80-120	-		
Lead, Dissolved	99	-		80-120	-		
Manganese, Dissolved	120	-		80-120	-		

Matrix Spike Analysis Batch Quality Control

Project Name: L&RR
Project Number: 224263

Lab Number:

L1610027

Report Date:

04/12/16

arameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	v Qual	Recovery Limits	RPD	RPD Qual Limits
Total Metals - Westborough La	b Associated	sample(s):	01-15 QC	Batch ID: WG	881117-	3 WG8811	17-4 QC Sa	ample: L	1610027-06	Clie	nt ID: CW-5B
Arsenic, Total	ND	0.12	0.124	103		0.121	101		75-125	2	20
Cadmium, Total	ND	0.051	0.054	106		0.053	105		75-125	1	20
Iron, Total	0.044J	1	0.97	97		0.99	99		75-125	2	20
Lead, Total	0.0030J	0.51	0.526	103		0.522	102		75-125	1	20
Manganese, Total	3.32	0.5	3.75	86		3.88	112		75-125	3	20
Dissolved Metals - Westboroug	jh Lab Associ	ated sample	e(s): 01-15	QC Batch ID:	WG881	523-3 WG	881523-4 C	C Samp	ole: L161002	7-06	Client ID: CW-
Arsenic, Dissolved	ND	0.12	0.223	186	Q	0.213	178	Q	75-125	5	20
Cadmium, Dissolved	ND	0.051	0.0873	171	Q	0.0886	174	Q	75-125	1	20
Lead, Dissolved	ND	0.51	0.885	174	Q	0.845	166	Q	75-125	5	20
Manganese, Dissolved	3.14	0.5	3.89	150	Q	3.93	158	Q	75-125	1	20

Project Name: Lab Number: L1610027 L&RR **Report Date:** 04/12/16 Project Number: 224263

Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

Α Absent В Absent

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рΗ	deg C	Pres	Seal	Analysis(*)
L1610027-01A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-01B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-02A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-02B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-03A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-03B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-04A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-04B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-05A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-05B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-06A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-06A1	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-06A2	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-06B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Y	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-06B1	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),MN- TI(180),CD-TI(180)
L1610027-06B2	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),MN- TI(180),CD-TI(180)
L1610027-07A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-07B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-08A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-SI(180)
L1610027-08B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180)
L1610027-09A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-SI(180)



Project Name:L&RRLab Number:L1610027Project Number:224263Report Date:04/12/16

Container Info	ormation			Temp			
Container ID	Container Type	Cooler	рН	deg C	Pres	Seal	Analysis(*)
L1610027-09B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180)
L1610027-10A	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-SI(180)
L1610027-10B	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-TI(180)
L1610027-11A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-SI(180)
L1610027-11B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180)
L1610027-12A	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-SI(180)
L1610027-12B	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-TI(180)
L1610027-13A	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-SI(180)
L1610027-13B	Plastic 500ml HNO3 preserved	В	<2	4.9	Υ	Absent	AS-TI(180)
L1610027-14A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-14B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)
L1610027-15A	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	PB-SI(180),AS-SI(180),MN- SI(180),CD-SI(180)
L1610027-15B	Plastic 500ml HNO3 preserved	Α	<2	4.6	Υ	Absent	AS-TI(180),PB-TI(180),FE- TI(180),MN-TI(180),CD-TI(180)



GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of

PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes
or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

TIC

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

Terms

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

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

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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

Report Format: DU Report with 'J' Qualifiers



Data Qualifiers

- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- **RE** Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers



Project Name: L&RR Lab Number: L1610027
Project Number: 224263 Report Date: 04/12/16

REFERENCES

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

LIMITATION OF LIABILITIES

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

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



Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 6

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Published Date: 2/3/2016 10:23:10 AM

Certification Information

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

EPA 524.2: 1,2-Dibromo-3-chloropropane, 1,2-Dibromoethane, m/p-xylene, o-xylene

EPA 624: 2-Butanone (MEK), 1,4-Dioxane, tert-Amylmethyl Ether, tert-Butyl Alcohol, m/p-xylene, o-xylene

EPA 625: Aniline, Benzoic Acid, Benzyl Alcohol, 4-Chloroaniline, 3-Methylphenol, 4-Methylphenol.

EPA 1010A: NPW: Ignitability

EPA 6010C: NPW: Strontium; SCM: Strontium

EPA 8151A: NPW: 2,4-DB, Dicamba, Dichloroprop, MCPA, MCPP; SCM: 2,4-DB, Dichloroprop, MCPA, MCPP

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene, Isopropanol; SCM: Iodomethane (methyl iodide), Methyl methacrylate

(soil); 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Pentachloronitrobenzene, 1-Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine; SCM: Pentachloronitrobenzene, 1-

Methylnaphthalene, Dimethylnaphthalene, 1,4-Diphenylhydrazine.

EPA 9010: NPW: Amenable Cyanide Distillation, Total Cyanide Distillation EPA 9038: NPW: Sulfate

EPA 9050A: NPW: Specific Conductance EPA 9056: NPW: Chloride, Nitrate, Sulfate

EPA 9065: NPW: Phenols EPA 9251: NPW: Chloride SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

EPA 8270D: NPW: Biphenyl; SCM: Biphenyl, Caprolactam EPA 8270D-SIM Isotope Dilution: SCM: 1,4-Dioxane

SM 2540D: TSS

SM2540G: SCM: Percent Solids EPA 1631E: SCM: Mercury EPA 7474: SCM: Mercury

EPA 8081B: NPW and SCM: Mirex, Hexachlorobenzene.

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA 8270-SIM: NPW and SCM: Alkylated PAHs.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene, n-Butylbenzene, n-Propylbenzene, sec-Butylbenzene, tert-Butylbenzene.

Biological Tissue Matrix: 8270D-SIM; 3050B; 3051A; 7471B; 8081B; 8082A; 6020A: Lead; 8270D: bis(2-ethylhexyl)phthalate, Butylbenzylphthalate, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, Di-n-octyl phthalate, Fluoranthene, Pentachlorophenol.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water

EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; EPA 200.7: Ba,Be,Ca,Cd,Cr,Cu,Na; EPA 245.1: Mercury;

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.

Non-Potable Water

EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;

EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;

EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F,

EPA 353.2: Nitrate-N, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF.

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

Pre-Qualtrax Document ID: 08-113 Document Type: Form

	CHAIN OF	CUS	TO	DY	PAGE 1 OF	2	Dat	e Rec'o	l in Lab	:4/	51	16			ALF	PHA .	Job#	4	610027		
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Client: Woodard &	Curran	Project	#: 2242	63											EASONABLE CONFIDENCE PROTOCOLS						
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Email: solney@Wo	odardcurran.com						6010C	Fe 60											□ Not Needed # □ Lab to do B		
☐ These samples have	been Previously analyzed by Alpha	Due Da	te: 10 D.	AY TAT	Time:		- A	Pb, F					1						Preservation O		
Other Project Sp	ecific Requirements/Comments/	Detection	n Limit	s:		**************************************	Mn,	Å,	O										☐ Lab to do ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐		
	I-4 Dioxane must be below 1.6 ug/L r Objectives, SW Samples must me				ort and		S,	Cd, Mn,	6010C	0									below) E		
GIS/Key EDD requ	ired, modified Tier II/TierIPlus report	Hold extra set of VOC				As,	As,	As (6010C												
Vials for MW-102A	low level and analize if TCE is J-Fla	agged bel	ow 5.0 ι	ug/L.			Dissolved As,	Metals As,	ved	As											
ALPHA Lab ID	Sample ID		Colle	ection	Sample	Sample Sampler's		. Me	Dissolved As	Total									Sample Specific		
(Lab Use Only)			Date	Time	Matrix	Initials		-		-	ĺ		1		1			ļ	Comments		
10027-01	MW-201	4	9-16	852	GW	RM													2		
02	MW-202			747	GW	RM															
03	MW-102A			1112	GW	RM															
04	MW-103A			1527	GW	RM	\boxtimes														
05	MW-104A			1422	GW	RM															
96	CW-5B			952	GW	RM				Ш	Ц	Ц	旦	닏				Ц			
07	CW-7B			1242	GW	RM						Ц	Ц	닏	닏			닏			
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(rev. 5-JAN-12)		-																_	Alpha's Payment Terms.		

	CHAIN OF CUSTODY PAGE 2 OF 2					Date Rec'd in Lab: 4(5/16 ALPHA Job #: 16							,10027							
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FORM NO: 01-01(1) (rev. 5-JAN-12)							- " - "											Alpha's Payment Terms		

Alpha Analytical Job Number: L1610027

Validation was performed on the inorganic analytical data collected by Woodard & Curran, Inc. at the L&RR Site in North Smithfield, Rhode Island. The data validation was conducted in accordance with "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review" August 2014; "EPA New England Environmental Data Review Supplement For Regional Data Review Elements and Superfund Specific Guidance/Procedures" April 2013, the Quality Assurance Project Plan (QAPP); and the referenced methods.

SDG	ANALYSES
L1610027	As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved)

As, Cd, Mn, Pb (total & dissolved)=Arsenic, cadmium, manganese, and lead (total & dissolved) by SW846 Methods 3005A/6010C; Fe=Iron (total) by SW846 Methods 3005A/6010C

Field Sample ID	Accutest Laboratory ID
MW-201	L1610027-01
MW-202	L1610027-02
MW-102A	L1610027-03
MW-103A	L1610027-04
MW-104A	L1610027-05
CW-5B	L1610027-06
CW-7B	L1610027-07
SW-5	L1610027-08
SW-8	L1610027-09
SW-10	L1610027-10
SW-16	L1610027-11
LCH-3	L1610027-12
LCH-5	L1610027-13
DUP-1	L1610027-14
EQUIPMENT BLANK	L1610027-15

The data were evaluated and were based on the following parameters:

Inorganics

- Holding times
- Sample preservation
- Blank results
- Matrix spike and matrix spike duplicate results
- Laboratory duplicate results
- Field duplicates
- Laboratory control sample results

L&RR PROJECT SUMMARY

Alpha Analytical Job Number: L1610027

Inorganics

Holding Times

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) samples were digested and/or analyzed within technical holding times. No qualifications were applied to the data.

Sample Preservation

Samples were received at 4.6 and 4.9 degrees Celsius. No qualifications were applied to the data.

Blank Results

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) method blanks were non-detect (ND) for all analytes. No qualifications were applied to the data.

As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) field blank sample, EQUIPMENT BLANK (L1610027-15), was ND for all target analytes with the following exception:

Blank ID	Compound	Concentration	Impacted Samples	Qualifier
EQUIPMENT	Mn (total)	0.0041 mg/L	All L1610027	U @ RL, L1610027-01
BLANK				*:

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Results

The As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) MS/MSD performed on sample CW-5B (L1610027-06) met acceptance criteria with the following exceptions:

MS/MSD	Analyte	%R/%R	QC Limits	Affected	Qualifier
ID	-			Samples	
CW-5B	As (dissolved)	186/178	75-125%	All L1610027	J
	Cd (dissolved)	171/174			None, sample samples ND
	Mn (dissolved)	150/158			\mathbf{J}
	Pb (dissolved)	174/166			None, sample samples ND

Laboratory Duplicate Results

No As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) laboratory duplicate was performed on a sample from this analytical package. No qualifications were applied to the data.

Field Duplicates

The As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) field duplicate samples MW-102A (L1610027-03)/DUP-1 (L1610027-14) met acceptance criteria. No qualifications were applied to the data.

L&RR **PROJECT SUMMARY**

Alpha Analytical Job Number: L1610027

Laboratory Control Sample Results

All As, Cd, Mn, Fe, Pb (total) & As, Cd, Mn, Pb (dissolved) laboratory control samples (LCS) met acceptance criteria. No qualifications were applied to the data.

Data Check, Inc. P.O. Box 29 81 Meaderboro Road New Durham, NH 03855

Gloria J. Switalski:

President

Date: 5/3/2016



APPENDIX C: GFS SAMPLING REPORT



GEOLOGICAL FIELD SERVICES, INC.

April 8, 2016

Ms. Samantha Olney Woodard & Curran 40 Shattuck Road, Suite 110 Andover, MA 01810

RE: L&RR Landfill, Rt. 7 North Smithfield RI

Ground and Surface Water Sampling

Dear Ms. Olney,

On April 5, 2016, Geological Field Services, Inc. (GFS) personnel conducted environmental sampling activities at the above referenced property. Activities included sampling seven monitoring wells and six surface water locations and taking water level measurements in nineteen monitoring wells at the site. Table 3 summarizes the measured depths to ground water. Ground water samples were collected from seven wells identified as MW-201, MW-202, CW-5B, MW-102A, MW-103A, MW-104A and CW-7B. Surface water samples were collected from the locations identified as SW-5, SW-8, SW-10, SW-16 LCH-3 and LCH-5. The following is a description of related field activities.

Ground Water Well Gauging

On April 5, 2016, GFS gauged the depth to water in nineteen ground water monitoring wells on site. Depths to ground water were all measured from the top of the wells PVC casing. The total depths were also measured in twelve of the nineteen wells. Attempts were made to remove the dedicated sampling pumps from monitoring wells MW-102A, MW-103A, CW-5B, CW-6B (new) and CW-7C to gauge the total depth. Heavy resistance was encountered when attempting to remove the pumps, to ensure that the pumps were not permanently jammed in the wells, they were lowered back to sampling depth and the total depth of the wells was not gauged. Monitoring wells CW-6C and CW-6B were blocked above the water table; therefore no total depth measurements were gauged. All of the well gauging data is presents on the attached table.

Surface Water Sample Collection

On April 5, 2016, GFS collected six surface water samples identified as SW-5, SW-8, SW-10, SW-16, LCH-3 and LCH-5 were collected from the areas as closely identified on the site map. Surface water samples SW-5, SW-8, SW-10, SW-16, LCH-3 and LCH-5 were collected with a Geotech peristaltic sampling pump and virgin tubing to minimize the addition of sediment to the sample. Field parameters were measured at each sample location and recorded on the attached field sheets. Surface water samples collected for dissolved metals analysis were field filtered through a 0.45-micron filter prior to preservation in the field. All of the surface water samples were packed on ice and delivered to Alpha Analytical Laboratories on April 5, 2016; a copy of the chain of custody is attached.

Ground Water Sample Collection

On April 5, 2016, seven monitoring wells identified as MW-201, MW-202, CW-5B, MW-102A, MW-103A, MW-104A and CW-7B. All of the wells were sampled using dedicated QED bladder pumps except monitoring well CW-7B; a Durham Geoslope (DGSI) bladder pump was used for sample collection. The DGSI sampling pump was decontaminated prior to the introduction to the well and after removal form the well with a series of Alconox and de-ionized water rinses. After the DGSI pump was cleaned, an Equipment Blank (EB) sample was collected by running laboratory grade De-ionized water through the pump into appropriate sample bottles.

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Prior to purging, the ground water level in each monitoring well was measured to the nearest 0.01 foot using an electronic water level sensing device. The depth to water and historical well depth measurements were used to calculate the volume of standing water in the well. Prior to purging, all wells were examined for the presence of free-phase petroleum product by observing the condition of the water level indicator when it was withdrawn from the well. No free-phase petroleum product was observed. Monitoring wells MW-201, MW-202, CW-5B, MW-102A, MW-103A and MW-104A were then purged using dedicated bladder sampling pumps and dedicated HDPE tubing. Monitoring well CW-7B was purged and sampled using a Durham Geoslope bladder pump. Temperature, specific conductivity, dissolved oxygen, pH and oxidation-reduction potential were measured using a YSI 556 meter. The YSI was calibrated at the start of the sampling day. Specific conductivity was calibrated using a 1,000-umhos/cm standard and dissolved oxygen was calibrated using the 100% saturation procedure. PH was calibrated using the three-point method using pH 4, 7 and 10 standards. Turbidity was measured using a Hach 2100Q turbidity meter calibrated with a 10.0 NTU standard at the start of the sampling day. At the end of the sampling day the equipment calibration drift was checked with the same standards used during the morning calibration. A table summarizing the field calibration is attached.

All of the monitoring wells were sampled in accordance with EPA's low flow sampling protocol. The bladder pump was started on the lowest setting and the draw down on the well was monitored. The pumping speed was increased slowly until the draw down stabilized. Efforts were made to minimize the draw down on the well. Field parameters were measured when water began to discharge from the flow though cell. Parameters were recorded on field sheets approximately every five minutes until they stabilized to within 10% and the turbidity of the purge water fell below 5.0 NTUs. Monitoring wells CW-7B and MW-104A stabilized with little to no reduction in the turbidity it is recommended that the wells be developed again to remove fines and possibly lower the turbidity in the sample water. After the field parameters stabilized for three consecutive readings, ground water was pumped directly into the sample bottles. The DGSI sampling pump was decontaminated prior to the introduction to the well and after removal form the well with a series Alconox and de-ionized water rinses. All of the samples collected for dissolved metals were field filtered through a 0.45-micron filter prior to preservation with nitric acid. A duplicate sample was collected from MW-102A and submitted to the laboratory as Dup-1. A matrix spike and matrix spike duplicate (MS/MSD) were collected from CW-5B. All of the ground water samples were packed on ice and hand delivered to Alpha Analytical Laboratories on April 5, 2016. Copies of the field sampling sheets and chains-of-custody are attached.

Please contact me if you have any questions.

Sincerely:

GEOLOGICAL FIELD SERVICES, INC.

Ryan J. MacKay Senior Geologist

07108.0416

Table 3 Groundwater Measurement and Elevation Summary

Annual Well Sampling - April, 2016 L and RR Superfund Site - North Smithfield, RI

Well Location	Geologic Unit ⁽¹⁾	Hydro- geologic		d Interval toc)	MP Elevation	Measured Well Depth	Water Level	Water Elevation
		Unit (2)	Тор	Bottom	(ft amsl)	(fb toc)	(fb toc)	(ft amsl)
MW -101	BR	FR BR	74.2	79.5	329.07	83.4	77.60	251.47
MW - 102A	UN	IC	62.7	73.3	258.03	*	10.81	247.22
MW - 102B	UN	К	28.9	39.4	253.74	41.07	8.56	245.18
MW - 103A	BR	FR BR	39.2	55.1	268.48	*	14.79	253.69
MW - 103B	UN	K	12.0	21.8	268.57	29.26	14.75	253.82
MW - 104A	UN	IC	43.5	54.0	263.54	54.02	17.68	245.86
MW - 104B	UN	K	14.5	24.0	263.77	25.56	12.47	251.30
CW - 5A	BR	FR BR	125.0	135.0	304.31	136.68	57.41	246.90
CW - 5B	UN	IC	92.0	102.0	303.92	Blocked	at 22.1	303.92
CW - 5C	UN	K	48.5	68.5	303.98	68.52	56.91	247.07
CW - 6A	BR	FR BR	82.0	92.0	264.06	98.13	18.78	245.28
CW-6B	UN	IC	51.0	61.0	261.74	Blocked @ 16.61		261.74
CW - 6B New	UN	IC				*	18.99	
CW - 6C	UN	K	13.0	33.0	263.98	Blocked	@ 16.49	
CW - 7A	UN	IC	37.0	47.0	255.59	48.22	8.75	246.84
CW - 7B	UN/BR	IC/FR BR	43.0	53.0	255.50	46.39	8.48	247.02
CW - 7C	UN/BR	K	7.0	27.0	255.05	*	8.05	247.00
MW-201	UN/BR	IC	69.0	89.0	320.25	90.68	68.71	251.54
MW-202	UN/BR	IC	21.0	38.6	253.26	38.32	10.81	242.45

Notes:

ft amsl - feet above mean sea level ftb toc - feet below top of casing MP - measuring point

(1) BR - BedrockUN - Unconsolidated(2) FR BD - Fractional Bedrock

K - Kame IC - Ice Contact * Pump couldnot be removed from well without risk of damage, total depth not gauged

GFS
Daily Instrument and Calibration Log

Date: April 5, 2016

Standard Value	pH4	pH7	pH10	SC 1000	ORP 236 mv	100% Sat.
Standard Lot Number	2AH414	2AH113	2AK717	2A1234	Zobell	
Instrument Serial #	pH4	pH7	pH10	SC 1000	ORP	D.O.
11G100862	•	-	•			
Pre Calibration	3.81	6.95	10.02	925	225.0	93.1
Calibrated	4.00	7.01	10.00	1000	236.0	99.6
End of Day Drift	4.04	7.02	10.06	1008	234.0	98.9

Date: April 5, 2016	10.0 NTU	Within Range
Hach:13100028784		
Calibration check AM	9.95	Yes
Calibration check AM	9.98	Yes

Protective Casing Present Protective Casing Locked Cap on Well Riser Physical Damage Y COC and run only if TCE is J-Flagged below 5 ug/L Depth to Water: Total Depth: Water Column: Development/Purge Device: Deblication Development/Purge Device: Deblication Coc and run only if TCE is J-Flagged below 5 ug/L Development/Purge Device: Deblicate Deblicat	200
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Protective Casing Present Protective Casing Locked Cap on Well Riser Physical Damage Y COC and run only if TCE is J-Flagged below 5 ug/L Depth to Water: Total Depth: Water Column: Development/Purge Device: Debic D	indicate hold on TPC Wdown Purge
Protective Casing Present Protective Casing Locked Cap on Well Riser Physical Damage Y Collect Duplicate (DUP-1) aslo collect one extra set of VOC vials for LL-Similar CoC and run only if TCE is J-Flagged below 5 ug/L Depth to Water: Depth to Product: Total Depth: Water Column: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP PH NTU Draw Celsius Umhos/cm mg/L NTU Draw Column: OND OND OND OND OND OND OND OND OND ON	indicate hold on TPC Wdown Purge
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Physical Damage Y N Visible Subsidence Y Depriment: Collect Duplicate (DUP-1) aslo collect one extra set of VOC vials for LL-Similar COC and run only if TCE is J-Flagged below 5 ug/L Depth to Water: /0.8/ Type of Protective Casing: Measuring Point: Measuring	indicate hold on RB SU TPC Wdown Purge
Depth to Water:	RB SU TPC
Depth to Water: /0.8/ Type of Protective Casing: Measuring Point: Measuring Measuring Point: Measuring Point	RB SU TPC
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Development/Purge Device: DEDICATED BLADDER PUMP	wdown Purge
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-			V-210-100					
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	Celsius	umhos/cm	mg/L	mV	su units		feet	garL
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1202	9,55	152.6	1.46	(1).3	6.63	9.00	2.5	4.5
15/0	9.58	151.6	1.45	110.6	6.72	2.17	2.5	60
1515	9.60	151.8	1.41	119.5	6.76	2.00	2.5	7.5
1520	9.61	151.7	1.39	118.7	6,75	1.90	2.5	9.0
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Project ID	07108 L&F	RR Landfill		V	/ell Number	: MW-104A		
Location	North Smit	hfield RI			Date	9-5-	-16	
Sample	MacKay	Dellea.			Time	: 1310		
Weather	SUMMY?	35						
P	rotective Cas	sing Present	(D) N		Cement	Pad Presen	O N	
P	rotective Ca	sing Locked	YO	E	Sta	anding Water	Y GO	
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14:00	14.8	401	0.95	-15.2	6.24	909	0.2	22
1405	14.93	459	0.08	-16-1	619	647	0.5	24
1410	14.77	434	0.09	-1912	6.24	526	0.2	24
1415	14.76	435	0.10	-19.1	6.23	525	0.2	25
1420	14.75	434	0.09	-19.2	6.24	526	0.2	30
	STABLE	which	h TURB	Dike o	UPB6E	Lher	Ihr Jomb	1
SINGS WIT			M 1 - KG	D. W.	DEDE	The I	The John be	
				-				24
	130,70165				-7			201-
	GRANGE		Sheen:	A (V		Volu	me Purged:	
	GRANGE B. NONE		Sheen: Turbidity:	L M (VH	Volu	Duration:	
Odor:	母. NONE						Duration:	Ihr 10/
Odor:	母. NONE			4 15 1				Ihr 10/
Odor:	母. NONE		Date:	415	16	_ Time:	Duration:	Ihr 10/

Project ID	0: 07108 L&I	RR Landfill		V	Vell Number	CW-5B		
Location	North Smi	thfield RI				4-9-	U	
Sample	MacKay	Dellea-				9:20		
Weather	Sung	25						
P	rotective Ca Protective Ca	sing Present asing Locked	00		Sta	nding Wate	-	
		on Well Riser					g Y	
	Phys	ical Damage	YW		Visible	Subsidenc	e Y A	
		MS AND MS						
A	-2 57.	41	C	56.91				
Dept	h to Product	blocked		Ту		tive Casing suring Poin		SU
V/A		13. 4			1/	Vall Valuma		
***	ater Column				V	Vell Volume		
Dev	elopment/Pi	urge Device:	DEDICATE	D BLADDE	R PUMP			
Tab.	-			1124.1		17.50	1	
Time	Temp	S.C.	D.O.	ORP	рН	NTU	Drawdown	Purge
925	Celsius	umhos/cm	mg/L	mV /2n/	su units		feet	gal.
930	9.74	110	8.32	130.1	8.39	10:5	0	
931	9.75	[2]	1.01	1295	8.00	7.3		2
940	9.74	117	0.92	1276	7.16	6.2	_	3
945	9.45	116	0196	124.2	7.20	3-1		4
950	9.42	117	0,95		7.18	3.0	-	2
12-	9-10	117	0143	1256	7.15	3.1		-
	None		Sheen: Turbidity:	D M H	D VH	Volu	ume Purged: _ Duration: _	
ample Co	ollection		Date	4151	16	Time	952	
		MEST IN						
	01	of Sampler:	Total I	N MIKEE	WATER IN	TERM LATEN	TEU	

Location: N	1 - 16 We				ell Number:	0.11.10		
	North Smith	field RI			Date:	3-5-14	0	
Sampler 1	MacKay)	Dellea			Time:	1205		
Weather:	Sunny	3SF						
Prot	tective Cas	ing Present	ON		Cement F	Pad Present	(V) N	
Pro	tective Cas	sing Locked	YN		Sta	nding Water	YW	
	Cap or	Well Riser	-		Visi	ble Heaving	× × ×	
	Physic	cal Damage	YW		Visible	Subsidence		
Comment: _	7A	8.75						
		8:05						
Depth	to Water:	8.	48	Tyr	pe of Protec	tive Casing	RB	(SU)
	to Product:				Meas	suring Point	TOC	TPC
		46.4				200		
-	er Column:		L		V	Vell Volume	6.21	
1120	2.777							
Devel	lopment/Pu	rge Device:	SAMPLE V	VITH DGSI	BLADDER F	PUMP		
Time	Temp	S.C.	D.O.	ORP	рН	NTU	Drawdown	Purge
18158	Celsius	umhos/cm	mg/L	mV	su units	1000	feet	gel L
1210	1247	135	1.37	125,4	6.33	28.6	012	0,5
1215	12.94	133	2.75	128.1	623	25.1	0.2	2.5
1220	12.42	131	255	131.5	6.75	24.9	0.2	25
1225	12.40	135	26	129.6	6.31	23-1	0,2	3.5
1230	12.60	134	2.01	128.1	6,29	22.0	0.2	4.5
1235	12.61	134	1.99	127.5	6,28	22.0	0.2	5.5
1240	12-62	1354	1.98	127.8	6.19	12.0	0.2	6.5
1000	NONE		Sheen: Turbidity:	DW H		Vol	Duration:	
Sample Col	llection		Date:	4,5	16	Time	1242	
Remarks:	well ste	tale son				Samples	At 22 NT	U.

Location: North Smithfield RI Sampler: MacKay) Dellea Weather: Twy 70 Protective Casing Present Y N Protective Casing Locked Y N Cap on Well Riser Y N Physical Damage N Visible Heaving Y N Comment: Tup of Royarcap Licrobia Depth to Water: Wall Volume: Depth to Product: Measuring Point: Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown feet Celsius umhos/cm mg/L m/V su units feet Type of Protective Casing: RB Measuring Point: Total Volume: Mell Vol	
Protective Casing Present Y N Protective Casing Locked Y N Cap on Well Riser Y N Physical Damage N Visible Heaving Y N Physical Damage N Visible Subsidence Y N Comment: Tup of Rogercap Leaces Depth to Water: 47.8168.71 Depth to Product: Measuring Point: Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Gelsius umhos/cm mg/L mV su units feet Total S.15 31 /0.6 World G.47 10.6 G.20 12.5 8.20 35 5.2 12/-3 (.445 F.Z 0.1 3.1 0.1	(Su)
Protective Casing Present Y N Protective Casing Locked Y N Cap on Well Riser Y N Physical Damage N Visible Heaving Y N Physical Damage N Visible Subsidence Y N Comment: Top of Royarcap creaces Depth to Water: 67-816871 Depth to Product: Measuring Point: Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Gelsius umhos/cm mg/L mV su units feet S.15 31 /0.16 16.15 G. H.F. 10.16 G. 12.16 G. 13.1	(Su)
Protective Casing Locked Y N Standing Water Y N Visible Heaving Y N Physical Damage N Visible Subsidence Y N Visib	(Su)
Cap on Well Riser Y N Physical Damage N Visible Heaving Y N Physical Damage N Visible Subsidence Y N Comment: TUP OF ROY-CAP CHARGES Depth to Water: 107-816871 Type of Protective Casing: RB Depth to Product: Measuring Point: 109 Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Celsius umhos/cm mg/L mV su units feet The State St	(Su)
Cap on Well Riser Y N Physical Damage N Visible Heaving Y N Physical Damage N Visible Subsidence Y N Comment: TUP OF ROYLEGO LICACES Depth to Water: 107.8 (8.71) Depth to Product: Measuring Point: 100 Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Celsius umhos/cm mg/L mV su units feet Total Depth: 90.71 Well Volume: 10.1 Time Temp S.C. D.O. ORP pH NTU Drawdown Feet Time Temp S.C. D.	(Su)
Physical Damage N Visible Subsidence Y N Comment: TUP OF ROYSTCAP LICAGES Depth to Water: 107.8 [8.7] Type of Protective Casing: RB Depth to Product: Measuring Point: 100 Total Depth: 90.71 Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Gelsius umhos/cm mg/L mV su units feet Total Depth: 90.71 Time Temp S.C. D.O. ORP pH NTU Drawdown feet S.C. D.O. ORP pH NTU Drawdown feet Total Development/Purge Device: DEDICATED BLADDER PUMP	(SU
Depth to Water: 107 8 687 Type of Protective Casing: RB	
Depth to Water:	
Depth to Product:	
Depth to Product:	
Total Depth: 90.71 Water Column: Well Volume:	IPC
Water Column: Well Volume: Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Celsius umhos/cm mg/L mV su units feet 50 8.15 31 /0.6 /6.15 6.41 /0.6 6.21 55 8.20 35 9.2 12/-3 6.45 8.2 0.1 56 8.25 37 9.8 125-2 6.51 3.1 0.1 57 8.27 39 9.2 122-6 6.57 3.2 0.1 57 70 8.29 36 9.6 21.4 6.71 3.1 0.1	
Development/Purge Device: DEDICATED BLADDER PUMP Time Temp S.C. D.O. ORP pH NTU Drawdown Celsius umhos/cm mg/L mV su units feet Tago 8.15 31 /0.6 1/6.5 G.47 /0.6 O.7 Tago 5.25 3.7 9.8 125.7 G.51 3.1 O.1 Tago 5.25 3.7 9.8 125.7 G.51 3.1 O.1 Tago 5.27 3.9 9.7 122.6 G.57 3.7 O.1 Tago 5.29 3.6 9.6 121.4 G.57 3.1 O.1 O.1 Tago 5.29 3.6 9.6 121.4 G.57 3.1 O.1	
Time Temp S.C. D.O. ORP pH NTU Drawdown mg/L mV su units feet 5.0 8.15 31 /0.6 //6.15 6.47 /0.6 0.2 5.7 8.20 35 9.2 12/.3 6.49 8.7 0.1 5.7 8.25 37 9.8 125.7 6.51 3.1 0.1 5.7 8.27 39 9.7 122.6 6.57 3.7 0.1 5.7 8.27 39 9.7 122.6 6.57 3.7 0.1	
Celsius umhos/cm mg/L mV su units feet 7.	
Celsius umhos/cm mg/L mV su units feet 7.70 8.15 31 /0.6 /6.15 6.47 /0.6 0.2 8.75 8.20 35 9.2 2/.3 6.49 8.2 0.1 8.75 8.25 37 9.8 25.2 6.51 3.1 0.1 8.75 8.27 39 9.2 22.6 6.52 3.2 0.1 8.76 8.27 36 9.6 21.4 6.51 3.1 0.1	n Purg
5 5 8.20 35 9.2 121.3 (.45 8.2 0.1 5.7 5.7 0.1 5.7 5.2 5.2 5.2 5.2 5.2 5.2 5.2 6.5 5.2 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5 6.5	gar
875 8.20 35 9.2 121.3 (.49 8.2 0.1 5 599 8.25 37 9.8 125.2 6.51 3.1 0.1 895 8.27 39 9.2 122.6 6.52 3.2 0.1 5 710 8.29 36 9.6 121.4 6.57 3.1 0.1	
10 895 8.27 39 9.7 122.6 6.57 3.7 0.1 15 10 8.29 36 9.6 1214 6.57 3.1 0.1	7.0
5 7 KB 8.29 36 96 21.4 6.17 3.1 0.1	3.5
	5.0
	615
885 8.26 35 9.44 129.1 649 1.31 0.1	8.0
	1
	-
	110
Color: Crr Sheen: Y (N) Volume Purged:	86
Odor: Turbidity: (L) M H VH Duration:	
Bulaton,	- 000
Sample Collection Date: 4/9/16 Time: 55	2
Remarks:	

Project ID:	07108 L&R	R Landfill		1	Vell Number	MW-202		
Location:	North Smith	nfield RI				4-5-4	0	
Sampler	MacKay	Dellea				720		
Weather	P. Sun	マドド						
P		sing Locked Well Riser cal Damage	N N O		Sta Vis Visible	Subsidenc	g Y Q	
							JAMMING	Ang.
Depth	th to Water: to Product: Total Depth: ter Column:	38.34			pe of Protec Mea	ctive Casing suring Poin		SU TPC
Deve	elopment/Pu	rge Device:	DEDICATE	D BLADDE	R PUMP			
Time	Temp Celsius	S.C.	D.O.	ORP mV	pH su units	NTU	Drawdown	Purge
725	8.33	221	9,31	1065	6.74	61	0.1	0.1
736	8.39	218	9.82	121.5	6.31	3.2	0.1	7.0
735	8141	221	9.14	95.3	6.71	3-1	0.1	9.5
740	8.20	526	9.815	9512	6:45	3:4	011	5.0
745	7.52	223	9.76	95.1	صاادعا	3.2	011	6.5
Color(Odor:	clepa Nove		Sheen: Turbidity:	GM (N) H VH	Voli	ume Purged Duration: _	

Project ID:	07108 L&F	RR Landfill		Surda	afe Water ID	LCH-3		
Location	North Smit	hfield RI			Date	4-5-	160	
Sampler	MACKAN	1			Time	1340		
Weather	SUNNY	35						
		rea south of f	MW-104 co	ouplet				
	Samp	oling Device:	GEOTECH	H 2 PERISTA	ALTIC			
Time	Temp Celsius	S.C.	D.O.	ORP	pH su units	NTU	Drawdown	Purge
1340	32	18).6	421	- 2.6	6.95	29	-	gal.
		1						
								_
	Clear		Sheen		D	Vol	ume Purged: _ Duration: _	1
Odor:	NONE		Turbidity	L)M H	1 VH		Duration: _	-
ample Co	lection		Date	415	16	Time	1342	
Remarks:								
			0					

Project ID:	07108 L&F	RR Landfill		Surda	fe Water ID:	LHC-5		
Location:	North Smit	thfield RI			Date:	4-9-	-16	
Sampler:	MACKA	1				10:20		
Weather:	Sun?	Se				-		
Comment:	Wetland ar	rea north of M	IW-102 co	uplet				
	Samp	oling Device:	GEOTECH	1 2 PERISTA	LTIC			
Time	Temp	S.C.	D.O. mg/L	ORP mV	pH su units	NTU	Drawdown	Purge
1027	1.8	15/16	8.21	1516	691	16.8	-	gal.
Calas	alass		-		2	73.1	3 3 3 3	
Odor:	Non		Turbidity	O'M H	VH	Vol	ume Purged: _ Duration: _	1
Sample Co	llection		Date:	4151	16	Time	1070	
Remarks:								
			1				-	

	07108 L&F			Sulua	fe Water ID:		(e	
	North Smit					31-5-		
	. MACKA				Time:	144	1	_
Weather	Sun	300						
Comment	In stream s	outh east of	MW-103 cc	ouplet				
	Samp	oling Device:	GEOTECH	2 PERISTA	ALTIC			
Time	Temp	S.C.	D.O.	ORP mV	pH su units	NTU	Drawdown	Purge
1445	3.1	101.6	4.25	-3.6	6.95	18.1	-	-
			1					
Color	CLEAR		Sheen	v (3	9	1/0	ume Durged:	
	Non		Turbidity	D'M T	VH	VOI	ume Purged: _ Duration: _	1
			-	415	11-		144	
sample C	ollection		Date:	7/5	10	Time		
Remarks	5.							

Project ID:	07108 L&F	RR Landfill		Surda	fe Water ID:			
Location	North Smit	hfield RI			Date:	4-5.	6	
Sampler	MACKU	/				1150		
Weather	MACLY	70						
	0	South east of	CW-7 triple	et				
	Samp	oling Device:	GEOTECH	12 PERISTA	LTIC			
Time	Temp	S.C.	D.O.	ORP mV	pH su units	NTU	Drawdown	Purge gal.
1155	2.1	[8]	3.20	1061	6.24	281	-	-
	Rust		Sheen Turbidity	LM	NH (Vol	ume Purged: _ Duration: _	1
ample Co	ollection		Date	915	16	Time	1/50	
Remarks	Very 1	ow volum	M IRO	N Floc	4 TURB	Siph P	ulled Int	5
		of Sampler:						

Project ID:	07108 L&F	RR Landfill		Surda	afe Water ID			
Location	North Smit	thfield RI			Date	4.5-	16	
Sampler.	MACKIN	7				1315		
Weather	Sun 3	SP						
Comment:	East MW-1	104 and land	fill beyone l	beaver dam				
	Samp	oling Device:	GEOTECH	1 2 PERISTA	ALTIC			
Time	Temp	S.C.	D.O. mg/L	ORP mV	pH su units	NTU	Drawdown	Purge
1315	2.1	181	102	-10.2	6.91	12./	- leet	gal.
			101-					
								*
	Clear		Sheen	Y (3	Vol	ume Purged: _ Duration: _	_
Odor	NONE						Duration: _	,
ample Co	llection		Date	415	16	Time	1318	
Remarks:								

Project ID	07108 L&F	RR Landfill		Surda	afe Water ID:	SW-16		
Location	n: North Smit	hfield RI			Date:	4-5-16	,	
Sample	r. MACKEY				Time:	1328		
	Su 35							
Comment	along north	nern bank of	ponded wa	iter east of M	NW-104 coup	olet and lan	dfill	
	Samp	oling Device:	GEOTEC	1 2 PERIST	ALTIC			
Time	Temp	S.C.	D.O. mg/L	ORP mV	pH su units	NTU	Drawdown	Purge
1328	22636	108.1	6.15	-5.2	6.59	21.0	-	- yai
	Clear		Sheen	Y (1)		Vol	ume Purged: _ Duration: _	1
ample C	ollection		Date	415	16	Time	1325	
Remarks	at							

-	CHAIN OF	CUS	TO	DY	PAGE \ 0	2	Dat	e Rec'd	in Lab						ALF	PHA.	Job#	:		
ALPH	A	Project	Infor	mation		3000	Re	port li	nform	ation	Dat	a Deli	veral	oles	Bill	ing l	nform	ation		
S N A'L VIT LO	P.A.A.	10000						FAX				EMAIL					as Clie		PO#	
Westborough, MA	Mansfield, MA		-					ADEX				Add'l De	liveral	oles						
TEL 508-898-9220	TEL: 508-822-9300	Project N	lame:	L&RR			Re	gulato	ry Re	equire	emen	ts/Re	oort	Limit	5					
FAX: 508-898-9193	FAX. 508-822-3288						100000	e/Fed F	33.2						Crite	ria				
Client Informat	ion	Project L	ocation	n. North Smit	thfield RI		- No	0.00	-C1 16	(DE)	F 05	DT 4 11	ame to		700	-	11-0-3	-	LANGE CONTRACTOR	TODA
Client: Woodard 8	Curran	Project #	2242	63						□ No	EGE			F 3.75	al Meth				ENCE PROTOC	ols
Address: 40 Shatt	uck Road Suite 40	Project N	lanage	r: Samantha	Olny		0			□ No									s) Required?	
Andover MA 0181	0	ALPHA C	uote #	£			AN	ALYS	IS											T.
Phone: 866-702-6	371	Turn-Ar	ound	Time	-														SAMPLE HANDLING Filtration	A
Fax: 978-557-794	8	Stand	ard	☐ Ru	sh (ONLY IF PR	E-APPROVED)							(1		1				E Done	L
Email: solney@W	oodardcurran.com								(НОГД)										☐ Not Needed ☐ Lab to do.	#
These samples have	e been Previously analyzed by Alpha	Due Date	: 10 D	AY TAT	Time:				E)										Preservation	0
Reporting limit for RI GA Groundwate GIS/Key EDD regu	er Project Specific Requirements/Comme orting limit for 1-4 Dioxane must be below 1.6 to the Groundwater Objectives, SW Samples must (Key EDD required, modified Tier II/TierlPlus rest for MW-102A low level and analize if TCE is a		oles mi	ust meet CG, PDF repo	ort and		VOC 8250C	1-4 Dioxane 8270 SIM	Dioxane Low Level	DBCP 504.1									(Please specify below:	8
ALPHA Lab ID	Sample ID		Coll	ection	Sample	Sampler's	100	4 0	14 Di	EDB C									Sample Speelfiel	
(Lat) Use Only)		0	ate	Time	Matrix	Initials	>	-	-	m	1								Comments	
	MW-201	4.5	-16	852	GW	RM														
	MW-202		1	747	GW	RM		\boxtimes												
	MW-102A			1112	GW	RM				\boxtimes										
	MW-103A			1527	GW	RM														
	MW-104A			1422	GW	RM														
	CW-5B			952	GW	RM	M	×												
-	CW-7B			1242	GW	RM	×		Ц		Ц		Ц			Ш				
	SW-5			1445	SW	RM			무				Ц							
	SW-8		-	1150	SW	RM			느		브									
DI PARE ASIRINE	SW-10	1 4	/	1318	SW	RM	×		П	П										
PLEASE ANSWER	QUESTIONS ABOVE				Co	ntainer Type	-	-	7	-	7	*		-	+	9				
IS VOUD	DROIFOR		_			Preservative			~		-	2	-	1	1	,	-		end completely. Sample not be logged in and	
	PROJECT or CT RCP?		5	Religi	puished By:		4/5//	ate/Tim			ly	Receive	ed By	ny		4/5	Pate/Tir	7/0	numeround time clock will start until eny ambiguities resorved. All samples aubinitied ann suggest to Alpha's Payment Terms.	is are

	CHAIN OF	CUS	ГО	DY	PAGE 2 OF	2	Date	Rec'd	in Lab						ALF	PHA.	lob#:		
ALPH	A	Project	Inform	mation			Re	port li	nform	ation	Data	Deli	verat	les	Billi	ing Ir	form	ation	
ANALYTIC	A.L							FAX			1	EMAIL			⊠ :	Same a	s Clien	tinfo	PO#:
Minutes and MA	Mansfield, MA						⊠	ADEx			☑ /	Add'l De	eliverat	vies					
Westborough, MA TEL 508-898-9220	TEL: 508-822-9300	Project N	ame: l	L&RR			Reg	gulato	ry R	equire	men	ls/Re	port l	imits	5				
FAX: 508-898-9193	FAX: 508-822-3288				** ***		Stat	e/Fed F	rogran	1					Crite	ria			
Client Informati		Project Lo	ocation	: North Smi	thfield RI		MC	0 00	ECITA	IDTIV	E CE	DTAI	UTV /	T D	EASO	MAD	ECC	MEI	DENCE PROTOCOLS
Client: Woodard &		Project #:	22426	63						□ No		10000	- M - DA - N		2000-0		quired?	_	DENCE PROTOCOLS
Address: 40 Shatte	uck Road Suite 40	Project M	anage	r. Samantha	Only		0			□ No					-	_	-		ls) Required?
Andover MA 0181	0	ALPHA C	uote #	k.			AN	ALYS	is										T
Phone: 866-702-6	371	Turn-Ar	ound	Time															SAMPLE HANDLING T.
Fax: 978-557-7948	3	⊠ Standa	ard	□ Ru	ish (ONLY IF PR	E-APPROVED			1										☑ Done
Email: solney@Wo	oodardcurran.com								000										☐ Not Needed ☐
☐ These samples have	peen Previously analyzed by Alpha	Due Date	10 D	AY TAT	Time:			1.5	(HOL										Presarvation 0
Reporting limit for RI GA Groundwate GIS/Key EDD requ	these samples have been Previously analyzed by Alpha er Project Specific Requirements/Comme orting limit for 1-4 Dioxane must be below 1.6 to SA Groundwater Objectives, SW Samples must //Key EDD required, modified Tier II/TierlPlus re s for MW-102A low level and analize if TCE is a			ust meet CG, PDF report of VOC	ort and		VOC 8260C	1-4 Dioxane 8270 SIM	Dioxane Low Level	DBCP 504.1									(Flease specify E S
ALPHA Lab ID	Sample ID		Calle	ection	Sample	Sampler's	1 8	4 0	4	EDB C									Sample Spicific
(Lab Use Only)		D	ate	Time	Matrix	Initials	>	-	+	ш									Coen moveda
	SW-16	4-5	5-16	1328	GW	RM	Ø	M											
	LCH-3		1	1342	GW	RM													
	LEFTS LCH-5			1030	GW	RM	M												
	DUP-1			11/2	GW	RM	M	M											
	CW-5B MS			954	GW	RM	×			\boxtimes									
	CW-5B MSD			952	GW	RM		X											
	EQUIPMENT BLANK			1355	GW	RM													
	TRIP BLANK	1	/				X	님		X	무			니	님	님	님	닏	
			_	-		-		무	무		님			님	님	님			
DI FACE AMOUNTS	THE PROPERTY AND ADDRESS OF THE PARTY AND ADDR				_		П	П	Ш		П	Ш	Ш	П		П			
PLEASE ANSWER	QUESTIONS ABOVE!					ontainer Type		-	2	18.1	*	*	*		1		100		Please print deany, legibly
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	or CT RCP?	¥	4	Relin	quished By:		4/5/	ate/Tim	7/6	-	ti	Receiv	red By:	n	7		ate/Tin		turnaround time clock will not start until any ambiguess environment All samples such and are subject to alpha's Payment Terms

1.	CHAIN OF	CUS	то	DY	PAGE 1 OF	2	Date	Rec'd	in Lab:					-	ALF	PHA .	lob#	:		
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-		1	-34				×	ADEx			×	Add'l D	eliverat	bles						
Westborough, MA TEL 505-898-9220	Mansfield, MA TEL 508-822-9300	Project	Name: I	L&RR			Red	quiato	orv Re	equire	emen	ts/Re	port I	imits						
FAX: 508-898-9193	FAX: 508-822-3288							e/Fed F	_		****				Crite	ria				
Client Informat	ion	Project	Location	: North Smi	thfield RI		-	NAME OF TAXABLE PARTY.	-			25.000	-	4344		-		-		_
Client: Woodard 8	Curran	Project	#: 2242	63					_		E CE	_						_	DENCE PROTOC	OLS
Address: 40 Shatt	tuck Road Suite 40	Project	Manage	r: Samantha	Olny		-			□ No					al Meth		-		(s) Required?	
Andover MA 0181	0	ALPHA	Quote #	e.				ALYS								0.00	action.	10000	T	Ī
Phone: 866-702-6	371	Turn-	Around	Time															SAMPLE HANDLING	T A
Fax: 978-557-794	8	⊠ Star			ish (ONLY IF PE	RE-APPROVED	1	6010C											Filtration Some	L
Email: solney@W	oodardcurran.com	_ ~ ~		-		10/11/10/19/01	Mn, Pb 6010C	e 60											☐ Not Needed ☐ Lab to do	
	e been Previously analyzed by Alpha	Due Da	ite: 10 D	AY TAT	Time:		0 B G	Pb, Fe											Preservation	8
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Reporting limit for	1-4 Dioxane must be below 1.6 i	g/L. GW sa	mples mi	ust meet			8	Cd. N	5010C	150								118	Biefow)	E
RI GA Groundwat GIS/Key EDD reg	er Objectives, SW Samples must uired, modified Tier II/TiertPlus re	meet RIDE	M AWQC	G, PDF report VOC	ort and			As. C	As 6	6010C							1			
Vials for MW-102	A low level and analize if TCE is .	I-Flagged be	low 5.0	ug/L.			per			As 60					1					
ALPHA Lab ID	Sample ID		Call	ection	Sample	Sampler's	Dissolved As.	T. Metals	Dissolved	Total A									Comple Specific	п
(Lab Use Only)	San partie		Date	Time	Matrix	Initials	ā	E		10									Enternents	
	MW-201	4	9-16	852	GW	RM									П	П	П			2
	MW-202		1	747	GW	RM	X	×												1
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	MW-103A			1527	GW	RM														11
	MW-104A			1422	GW	RM	M	M												11
	CW-5B			952	GW	RM	M													1
	CW-7B			1242	GW	RM		M												1
	SW-5			1445	sw	RM														1
	SW-8			1150	sw	RM				\boxtimes										1
	SW-10		V	1318	sw	RM			M											0
PLEASE ANSWER	QUESTIONS ABOVE!				C	ontainer Type	1	-	2	4	+	-	-	-	-	-	-	-	Carlotte and	
						Preservative	-	-	1	- 1	-	-	-	1	-	-	- 1	~	Please point clearly leg and completely. Same	
IS YOUR	PROJECT			Relin	quished By:		Account to the last	ate/Tim	T			Recei	ved By			. 1	Date/Ti	me	not be logged in and furnaround time case	
MA MCP	or CT RCP?			1	D		45	6 17	0	N	m		Ch	5		4/0	1/161	710	slart until any ambiguit resolved. All samoles	
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Automotiva					1000	000	⊠	ADEX			×	Add'i De	eliverat	oles					•	
Westborough, MA TEL 508-898-9220	Mansfield, MA TEL 508-822-9300	Proje	ect Name; L	&RR			Reg	gulato	ry Re	quire	emen	ts/Re	port l	Limits	3					
FAX: 508-698-9193	FAX: 508-822-3288			_				e/Fed P							Crite	ria				
Client Informat	ion	Proje	ect Location	North Smi	thfield RI		-			ASIO					70.00	-		20.00		
Client: Woodard 8	Curran	Proje	ect #. 22426	33			Me			□ No	E CE				EASO al Metho				DENCE PROTOCO	OLS
Address: 40 Shatt	ruck Road Suite 40	Proje	ect Manage	r. Samantha	Only		0			□ No		_					*		is) Required?	
Andover MA 0181	0	ALPI	HA Quote #	t	107-5		AN	ALYS	IS											T
Phone: 866-702-6	371	Turi	n-Around	Time															SAMPLE HANDLING	T.
Fax: 978-557-794	8	⊠s	tandard	□ Ru	ish (ONLY IF PE	RE-APPROVED	1	6010C											☑ Done	L
Email: solney@W	oodardcurran.com						Mn, Pb 6010C	Fe 60				1			1				☐ Not Needed ☐ Lab to do	#
☐ These samples hav	e been Previously analyzed by Alpha	Due	Date: 10 D/	AY TAT	Time:		90	Pb, F											Preservation	0
Other Project Sp	pecific Requirements/Comme	nts/Deter	ction Limits	S:			Na.	Mn, F	O										D Lab to do (Please specify	į
Reporting limit for	1-4 Dioxane must be below 1.6	ug/L, GW	samples mu	ust meet			8	Cd. N	6010C	155									below	8
	er Objectives, SW Samples must uired, modified Tier II/TiertPlus re				ort and			As. C	As 6	5010C										
Vials for MVV-102/	A low level and analize if TCE is .	J-Flagged	below 5.0 u	ig/L.			ved		ved	AS 6										
ALPHA Lab ID	Sample ID		Colle	ection	Sample	Sampler's	Dissolved As,	T. Metals	Dissolved	Total				Ш					Sumple Specific	
(Lab Use Only)			Date	Time	Matrix	Initials	0	-	0	6					1				Comments	
	SW-16		4-5-16	1328	GW	RM				M										12
	LCH-3			1342	GW	RM			\boxtimes											2
	LOWO LCH-5			1630	GW	RM			\boxtimes											7
	DUP-1			1112	GW	RM														12
	CW-5B MS			952	GW	RM														2
	CW-5B MSD			952	GW	RM														2
	EQUIPMENT BLANK		V	1355	GW	RM														2
				1					П				П							
PLEASE ANSWER	QUESTIONS ABOVE!				C	ontainer Type	-	-	-	-	27	-	9	4	3	-	30	-	Pleane print clearly, top	date
						Preservative	0	-	-	-	*	100	2	-	1			8	and completely. Sample not be logged in and	
	PROJECT		-	Relig	quished By:		1	ate/Tim				-	ved By			-	Date/Ti	-	turnaround time clock w start until any ambigwie	
	or CT RCP?			ax.	3	1	15/16	(41	0	_	l	hur	M	W	my.	419	1161	1.16	resolved. All samples submitted are sampled to	0
(100 0-1001-12)							-	-	-				_	-	-				Alpha a Payment Terms	
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.3.	CHAIN OF	CUS	то	DY	PAGE 1 OF	2	Date	Recid	in Lab						ALF	HA .	lob#:		
ALPH	A	Projec	t Infor	mation					nform	ation	Data	a Deli	verat	oles		_	form	_	
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Westborough, MA	Mansfield, MA	Desired	Nemes	(ADD				ADEx				Add'l De	eliverat	oles					
TEL 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288	Project	Name:	Lark			1			equire	men	ts/Re	port l	imits					
Client Informat		Project	Location	n: North Smi	thfield RI		Sfat	e/Fed F	'rogran	1					Crite	nia .		_	
Client: Woodard 8		The same	#: 2242				MC	P PR	ESUN	MPTIV	E CE	RTAII	NTY-	CT R	EASO	NAB	LE C	ONFID	ENCE PROTOCOLS
Address: 40 Shatt				er: Samantha	Olny			_		□ No		1000					quired?		
Andover MA 0181	17	ALPHA	-		City		AN	ALYS	_	□ No	-	Are	CTRC	P (Rea	sonable	Confi	denca F	roloco	s) Required?
Phone: 866-702-6	7714	Contract of	round	100	-		AN	ALTO	13										SAMPLE HANDLING T
Fax: 978-557-794	8	⊠ Star		-	ish (ONLY IF PR	E ABBROVER													Filtration 2
Email: solney@W		DJ Otal	idard	LI NO	ISH (CALT IF PE	E-APPRUVED;													☐ Not Needed #
	e been Previously analyzed by Alpha	Due Dr	te: 10 D	AY TAT	Time:														Preservation 0
	pecific Requirements/Comme				Times.														☐ Lab to do
Reporting limit for	1-4 Dioxane must be below 1.6 u	g/L, GW sar	nples m	ust meet															(Please specify below:
RI GA Groundwate GIS/Key EDD regi	er Objectives, SW Samples must uired, modified Tier II/TierlPlus re	meet RIDE	AWQ0	CG, PDF rep	ort and		0.0	50.1	108	113									
Vials for MW-102/	low level and analize if TCE is J	-Flagged be	low 5.0	ug/L.			le 30	nia 3	SM521	410.4									
ALPHA Lab ID	Sample ID		Coll	ection	Sample	Sampler's	Chloride 300.0	Ammonia 350.1	BOD S	COD 4									Sample Apports
(Lab Use Only)	Sente		Date	Time	Matrix	Initials	0	A	B	0									Comments
	MW-201	4	-5-16	852	GW	RM													17
	MW-202		1	747	GW	RM	X	M	M										
	MW-102A			1112	GW	RM		\boxtimes											
	MW-103A			1527	GW	RM													
	MVV-104A			1422	GW	RM		\boxtimes											
	CW-5B			952	GW	RM													
	CW-7B			1242	GW	RM		\boxtimes	\boxtimes	\boxtimes									
	SW-5			1445	sw	RM													04
	SW-8			1150	sw	RM													6/1
	SW-10	1.0	V	1318	SW	RM	M												DI
PLEASE ANSWER	QUESTIONS ABOVE!				Co	ntainer Type	P	P	P	P	-11		-	-	-	7	8	1	
					1	Preservative	I	-	D	-	~	-	-	-	-	-	-	-	Presse print clearly, legibly and completely. Samples per
IS YOUR	PROJECT		/	Relin	quished By:		Annual Control	ate/Tim				Receiv	ed By:			- 1	ete/Tin	ne	not be lagged in and turnaround time chall will not start until any amagarities are
				4. 8 4 4			1 Aller Hi	47.5	in.				6.1			4 1 70	- 114	a well her	
	or CT RCP?	-	12	MAS	-		4/5/16	17/	0	1	MM	M	N	m		915	116	1 110	resolved. All samples submitted are subject to

De .	CHAIN OF	CUSTO	DY	PAGE 2 OF	2	Det	e Rec'd	in Lab						ALI	PHA.	Job#	:		
ALPH	A	Project Infor	mation			Re	port l	nforn	ation	Dat	a Deli	vera	bles	Bill	ing Ir	form	ation	100	
ANALYTIC	TAL.	100000					FAX				EMAIL				Same a	es Clie	nt info	PD#	
Westborough, MA	Mansfield, MA	Designat Manage	1.800	-		×	ADEX			Ø	Add'l De	elivera	bles						
7EL 508-898-9220 FAX: 508-898-9193	TEL: 508-822-9300 FAX: 508-822-3288	Project Name:	Larr			1	200			emen	ts/Re	port	Limit						
Client Informat	CANADA TO THE PARTY OF THE PART	Project Locatio	n: North Sm	ithfield RI		258	te/Fed F	rogran	1					Crite	ria				
Client: Woodard 8	& Curran	Project #: 2242				MC	PPR			E CE	RTAI	NTY-	CTR	EASC	NAB	LE C	ONFI	DENCE PROTOC	OLS
Address: 40 Shat	tuck Road Suite 40	Project Manage		a Only		무			□ No	_	_			al Meth		_		A 10 PC - 10 - 18	
Andover MA 0181	0	ALPHA Quote					ALYS		LI NO		Are	LIRU	P (Rea	sonable	e Conti	dence	Protoc	ols) Required?	T
Phone: 866-702-6	371	Turn-Around	Time			7.11							T	T	1	T	T	SAMPLE HANDLING	T
Fax: 978-557-794	8		□R	ush (ONLY IF PR	E-APPROVED													Filtration Done	Å
Email: solney@W	oodardcurran.com										l X							☐ Not Needed ☐ Lab to do	#
These samples hav	e been Previously analyzed by Alpha	Due Date: 10 D	AY TAT	Time:														Presurvation	B O T
Reporting limit for RI GA Groundwat GIS/Key EDD reg	Decific Requirements/Comme 1-4 Dioxane must be below 1.6 is er Objectives, SW Samples must uired, modified Tier II/TierlPlus re A low level and analize if TCE is a	ug/L, GW samples m meet RIDEM AWQ	ust meet CG, PDF reg	oort and		Chloride 300.0	350.1	SM5210B	0									D Leb to do (Please specify below)	TLES
ALPHA Lab ID					1 20 20	oride	Ammonia		D 410.										
(Lab Use Only)	Sample ID	Date	Time	Sample Matrix	Sampler's Initials	5	Am	BOD	GOD				Ш					Sample Specific Comments	
	SW-16	4-5-16	1378	GW	RM			П					П	III			I	1	1
	LCH-3	-	1342	GW	RM	×								Ī		Ī	1		1
	HOME LCH-5		1030	GW	RM														1
	DUP-1		1112	GW	RM	M													2
	CW-5B MS		952	GW	RM				X										2
	CW-5B MSD		952	GW	RM		\boxtimes	\boxtimes											2
	EQUIPMENT BLANK	8	1355	GW	RM		\boxtimes	\boxtimes											2
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DI EARE ANOWER	DUEDENIN A POLICE					ш	Ш	Ш		П				П	П	П			
FLEASE ANSWER	QUESTIONS ABOVE!			Co	intainer Type	-		()	0		-	-	-	7		-	-	Please print closerly, leg	(blv.
IS YOUR	PROJECT		- Polls	nquished By:	Preservative	-	nin (T)				Desir					1	15	and completely - Sample not be legged in and	ins can
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FORMAN GLOSES	or CT RCP?	-	100			11-11	3	14	1		-1	000)		400	SVOP.	170	resolved. All samples submitted are subject to Alpha a Payment Terms	
																	-	round a Payment Ferrit	



APPENDIX D: HISTORICAL GROUNDWATER DATA (2006 – 2015)

Historical Groundwater Chemistry Data

L&RR Superfund Site - North Smithfield, RI, 2006 - 2014

	I	T au -											014.50			
LABORATORY ANALYTES	MCL ⁽¹⁾	CW-5A						CW-5B			 			-5C	\dashv	
		3/19/2	012	3/24/2	014	3/19/20	12	6/19/20	13	3/24/2014	4/6/2015	4/5/2016	3/19/201	12	3/24/201	4
Volatile Organic Compounds (μg/L)		4.0	-	4.0		1.0		4.0	- 11	4.0	1 4 11	0.5	4.0		10	
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	200	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U J 1 U	0.5 U		U		U U
1,1,2,2-Tetrachloroethane		0.5	U	1.0	U	0.5	U	1.0	U		J 1 U	0.5 U		U		U
1,1,2-Trichloro-1,2,2-trifluoroethane 1,1,2-Trichloroethane	5.0	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
1,1-Dichloroethane	0.0	1.0	Ü	1.0	U	1.0	U	1.0	U		J 1 U	0.75 U	-	Ü		U
1,1-Dichloroethene	7.0	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
1,1-Dichloropropene 1.2.3-Trichlorobenzene		1.0	U	1.0	U	1.0 1.0	U	1.0 1.0	UJ		J 1 U	1 U		U		U
1,2,3-Trichloropropane		1.0	Ü	1.0	U	1.0	U	1.0	U		J 1 U			Ü		U
1,2,4-Trichlorobenzene	70	1.0	U	1.0	U	1.0	U	1.0	UJ		J 1 U			U		U
1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane	0.2	1.0 5.0	U	1.0 0.011	U	1.0 5.0	U	1.0 1.0	U		J 1 U J 0.0104 U			U		U
1,2-Dibromoethane	0.05	1.0	Ü	1.0	U	1.0	U	1.0	U		J 0.0104 U	0.021 U		Ü		U
1,2-Dichlorobenzene	600	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
1,2-Dichloroethane 1,2-Dichloropropane	5.0 5.0	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
1,3,5-Trichlorobenzene	3.0	1.0		1.0	U	1.0	U	1.0	U		J 1 U			Ŭ		U
1,3,5-Trimethylbenzene		1.0	U	1.0	U	1.0	U	1.0	UJ		J 1 U			U		U
1,3-Dichlorobenzene 1,3-Dichloropropane		1.0	U	1.0	U	1.0	U	1.0 1.0	U		J 1 U			U		U
1,4-Dichlorobenzene	75	0.4	J	1.0	U	1.0	U	1.0	U		J 1 U	1 U		U		U
1,4-Dioxane		20.0	U	1.6	U	20.0	U	40	R		J 1.15	0.144 U		U		U
2,2-Dichloropropane 2-Butanone	<u> </u>	1.0 10	U UJ	1.0	U	1.0 10	U	1.0 10.0	UJ		J 1 U J 10 U	1 U		U UJ		U
2-Chlorotoluene	1	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
2-Hexanone				5.0	U					5.0	J 5 U	5 U			5.0	U
4-Chlorotoluene 4-Isopropyltoluene	<u> </u>	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
4-Methyl-2-pentanone		10	U	5.0	U	10	U	5.0	UJ		J 5 U			U		U
Acetone		50	Ü	10.0	U	50	Ü	10.0	UJ	1.0	J 10 U	2.6 J	50	Ü	10.0	U
Acrylonitrile	5.0	1.0	- 11	5.0	= C	1.0		10	11		J 5 U			Ţ		= C
Benzene Bromobenzene	5.0	1.0	U	1.0	U	1.0 1.0	U	1.0 1.0	U		J 1 U	0.5 U		U		U U
Bromochloromethane		1.0	U	1.0	U	1.0	U	1.0	U	1.0	J 1 U		1.0	U	1.0	U
Bromodichloromethane		0.5	U	1.0	U	0.5	U	1.0	U		J 1 U			U		U U
Bromoform Bromomethane		1.0 2.0	U	1.0	U	1.0 2.0	U	1.0 1.0	UJ		J 1 U			U		U
Carbon disulfide				1.0	U						J 1 U				1.0	U
Carbon Tetrachloride	5.0	1.0	U	1.0	: ⊂	1.0	U	1.0	: ⊂		J 1 U			U		U
Chlorobenzene Chloroethane	100	1.0 2.0	U	1.0	U	1.0 2.0	U	1.0	U		J 1 U			U		U
Chloroform		1.0	Ü	1.0	U	1.0	Ü	1.0	U		J 1 U			Ü		Ü
Chloromethane	70	0.2	J	1.0	: ⊂	2.0	U	1.0	: ⊂		J 1 U			U		U
cis-1,2-Dichloroethene cis-1,3-Dichloropropene	70	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
Dibromochloromethane		0.5	U	1.0	U	0.5	U	1.0	U		J 1 U	0.5 U	_	U		Ü
Dibromomethane		1.0	U	1.0	: ⊂	1.0	U	1.0	U		J 1 U			U		U
Dichlorodifluoromethane Ethanol TIC		1.0	UJ	10.0 50.0	U	0.39	J	1.1			J 0.986 J 50 U	2.6	1.0 l	UJ		U
Ethylbenzene	700	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U	0.5 U	1.0	U		U
Ethyl Ether				1.0	U			1.0	U		J 1 U			\Box		U
Hexachlorobutadiene Isopropyl Ether		0.4	U	1.0	U	0.4	U	1.0 1.0	O DJ		J 1 U			U		U
Isopropylbenzene		1.0	U	1.0	U	1.0	U	1.0	U		J 1 U			U		U
m,p-Xylenes	10,000	2.0	U	2.0	U	2.0	U	2.0	U		J 2 U	1 U		U		U
Methylene Chloride Methyl tert-butyl Ether	5.0	2.0	U	1.0	U	2.0	U	1.0	U		J 1 U			U		U
Naphthalene	100	5.0	U	1.0	U	5.0	U	1.0	UJ		J 1 U			U		U
n-Butylbenzene		1.0	U	1.0	U	1.0	U	1.0	UJ		J 1 U			U		U
n-Propylbenzene o-Xylene	10,000	1.0	U	1.0	U	1.0 1.0	U	1.0 1.0	U		J 1 U			U		U
sec-Butylbenzene	10,000	1.0	Ü	1.0	U	1.0	U	1.0	U		J 1 U			U		U
Styrene	100	1.0	U	1.0	U	1.0	U	1.0	U	1.0	J 1 U		1.0	U	1.0	U
Tert-butylbenzene Tert-butyl Alcohol	ļ	1.0	U	1.0	U	1.0 20.0	υ	1.0	U		J 1 U J 10 U			U		U U
Tert-amyl methyl ether	1	∠∪.∪	U	10	U	20.0	U	20	U		J 10 U			┪		U
Tert-butyl ethyl ether				1	Ü					1.0	J 1 U	1 U		⇉	1.0	U
Tetrachloroethene Tetrachydrofuran	5.0	1.0 2.0	U	3.7 5.0	C	1.3 2.0	U	1.3 5.0	IJ	1.15 5.0	1.17 J 5 U	1.9 2 U		U		U
Tetrahydrofuran Toluene	1,000	1.0	U	1.0	U	1.0	U	1.0	UJ		J 5 U			U		U
trans-1,2-Dichloroethene	100	1.0	Ü	1.0	U	1.0	U	1.0	U	1.0	J 1 U	0.75 U	1.0	Ū	1.0	U
trans-1,3-Dichloropropene				1.0	= C						J 1 U			1		U
trans-1,4-Dichloro-2-butene Trichloroethene	5.0	1.0	U	1.0	U	1.0	U	1.0	U		J 1 U	2.5 U 0.5 U		U		U U
Trichlorofluoromethane		1.0	U	1.0	U	1.0	U	1.0	U	1.0	J 1 U	1 U	1.0	U	1.0	U
Vinyl Chloride	2.0	0.5	U	1.0	U	0.5	U	1.0	U	1.0	J 1 U	0.2 U	0.5	U	1.0	U
DISSOLVED TAL METALS (ug/L)																
Arsenic Dissolved	10	10	U	1.0	U	10	U	10	U	1	J 0.11	5 U	10	U	1.0	U
Cadmium Dissolved	5.0	1.0	U	1.0	Ü	0.19	J	1	U	0.152	0.5 U U	5 U	1.0	U	1.0	Ü
Lead Dissolved	15	5.0	U	0.09		5.0	U -	5	U	0.092	0.153	10 U	-	U	0.025	4
Manganese Dissolved	-	10	U	11.3		2,900	J	2,500		2690	2,970	3140	10	U		\dashv
TOTAL TAL METALS (ug/L)																
Arsenic	10	10	U	1.0	U	10	U	10	U		J 1.31	5 U		U		U
Cadmium Iron	5.0	1.0 550	U	1.0 326	U	0.33 71	J	260	U	0.152 32	0.189 66	5 U 44 J	_	U J	1.0 6.51	U
Lead	15	3.9	U	0.608		2.6	UJ	5	U	0.303	0.602	3 J		UJ	0.023	\dashv
Manganese		39	J	21.6		3,000	J	2,700		2620	3,050	3320		UJ		ゴ
																J
INDICATOR PARAMETERS (mg/L)		0.44		0.555		0.400		0.00	11	0.00	ul	0.000	0.400	,, 1	0.02	
Ammonia BOD	 	0.11	R	0.555 2.55	J+	0.100	U R	0.02	U		IJ + 2 U	0.066 J 2 U		U R	0.02 2.91	J+
Chloride	250	2.4		2.33	UJ	1.6	- `	11	J		J 1.83	1.86	1.8	Ì		UJ
COD		29		12.6	J+	22		10	U	10 l	IJ 10 U	20 U		U	10	П

Notes:

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- (3) Bolded values = analyte detected above the MCL

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 (6) "J" = estimated result value

 (7) "B" = analyte detected in sample and laboratory blank

 (8) "J+" = result estimated, biased high

 (9) Blank cells = compound not analyzed

Historical Groundwater Chemistry Data

L&RR Superfund Site - North Smithfield, RI, 2006 - 2014

LABORATORY ANALYTES	MCL ⁽¹⁾			CW-7B				DUP	MW-102A		DUP			
		3/20/2012	6/19/2013	3/24/2014	4/6/2015	4/5/2016	3/20/2012	3/20/2012	6/19/2013	3/24/2014	3/24/2014			
Volatile Organic Compounds (μg/L)														
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	200	1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.5 U 0.5 U								
1,1,2,2-Tetrachloroethane	200	0.5 U	1.0 U	1.0 U		0.5 U								
1,1,2-Trichloro-1,2,2-trifluoroethane	5.0	4.0	4.0	1.0 U		10 U		4.0	4.0	1.0 U				
1,1,2-Trichloroethane 1,1-Dichloroethane	5.0	1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.75 U 0.75 U		1.0 U	1.0 U	1.0 U 10.4	1.0 U 10.3			
1,1-Dichloroethene	7.0	1.0 U	1.0 U	1.0 U		0.5 U					1.0 U			
1,1-Dichloropropene 1,2,3-Trichlorobenzene		1.0 U 1.0 U	1.0 U 1.0 UJ	1.0 U 1.0 U	1 U	1 U								
1,2,3-Trichloropropane		1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	70	1.0 U 1.0 U	1.0 UJ 1.0 U	1.0 U 1.0 U	1 U	1 U								
1,2-Dibromo-3-chloropropane	0.2	5.0 U	1.0 U	0.011 U		0.021 U								
1,2-Dibromoethane	0.05	1.0 U	1.0 U	1.0 U	0.0105 U	0.021 U								
1,2-Dichlorobenzene 1,2-Dichloroethane	600 5.0	1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U		1 U 0.5 U		_						
1,2-Dichloropropane	5.0	1.0 U	1.0 U	1.0 U	1 U	1 U		1.0 U	0.33 J	1.0 U	1.0 U			
1,3,5-Trichlorobenzene 1,3,5-Trimethylbenzene		1.0 U	1.0 UJ	1.0 U 1.0 U		1 U		1.0 U	0.77 J	1.0 U 1.0 U				
1,3-Dichlorobenzene		1.0 U	1.0 U	1.0 U							1.0 U			
1,3-Dichloropropane	75	1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	1 U		1.0 U	1.0 U 2.0	1.0 U 1.5	1.0 U 1.0			
1,4-Dichlorobenzene 1,4-Dioxane	75	20.0 U	40 R	4	5.71	4.23	20.0 U							
2,2-Dichloropropane		1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
2-Butanone 2-Chlorotoluene		10 UJ 1.0 U	10.0 UJ 1.0 U	10.0 U	10 U	5 U 1 U								
2-Hexanone				5.0 U	5 U	5 U				5.0 U	5.0 U			
4-Chlorotoluene		1.0 U	1.0 U	1.0 U 1.1	1 U 1 U	1 U 0.5 U		1.0 U	1.0 U	1.0 U 1.0 U				
4-Isopropyltoluene 4-Methyl-2-pentanone		10 U	5.0 UJ	1.1 5.0 U	1 U	0.5 U		10 U	5.0 U.					
Acetone		U	10.0 UJ	10.0 U	10 U	2.5 J	50 U			10.0 U	10.0 U			
Acrylonitrile Benzene	5.0	1.0 U	1.0 U	5.0 U 1.0 U	5 U	5 U 0.5 U		1.7	2.1	5.0 U 1.5	5.0 U 1.5			
Bromobenzene	0.0	1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
Bromochloromethane		1.0 U 0.5 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U 1 U	1 U 0.5 U								
Bromodichloromethane Bromoform		1.0 U	1.0 UJ	1.0 U										
Bromomethane		2.0 U	1.0 UJ	1.0 U	1 U	1 U		2.0 U			1.0 U			
Carbon disulfide Carbon Tetrachloride	5.0	1.0 U	1.0 U	1.0 U 1.0 U	1 U	1 U 0.5 U		1.0 U	1.0 U	1.0 U				
Chlorobenzene	100	1.0 U	1.0 U	1.0 U	1 U	0.5 U		3.5	6.0	4.2	3.8			
Chloroethane		2.0 U	1.0 U	1.0 U	1 U	1 U		1.9 J		1.7	1.4			
Chloroform Chloromethane		1.0 U 2.0 U	1.0 U 1.0 U	1.0 U 1.0 U		0.75 U 2 U								
cis-1,2-Dichloroethene	70	0.2 J	1.0 U	1.0 U		0.5 U		56	48	32.4	31.3			
cis-1,3-Dichloropropene Dibromochloromethane		0.5 U	1.0 U	1.0 U 1.0 U	1 U	0.5 U 0.5 U		0.5 U	1.0 U	1.0 U 1.0 U				
Dibromomethane		1.0 U	1.0 U	1.0 U										
Dichlorodifluoromethane Ethanol TIC		1.0 UJ	1.0 U	1.0 U 50.0 U	1 U	2 U	4.4 J	4.7 J	3.8	2.1 50.0 U	1.8 50.0 U			
Ethylbenzene	700	1.0 U	1.0 U	1.0 U		0.5 U	1.0 U	1.0 U	1.0 U					
Ethyl Ether			1.0 U	1.0 U		1 U			6.1	3.9	3.8			
Hexachlorobutadiene Isopropyl Ether		0.4 U	1.0 UJ 1.0 U	1.0 U 1.0 U		0.5 U 1 U		0.4 U	1.0 Uc 0.92	1.0 U				
Isopropylbenzene		1.0 U	1.0 U	1.0 U	1 U	0.5 U		0.2 J	1.0 U	1.0 U	1.0 U			
m,p-Xylenes Methylene Chloride	10,000 5.0	2.0 U 2.0 U	2.0 U 1.0 U	2.0 U 1.0 U										
Methyl tert-butyl Ether	5.0	2.0 0	1.0 0	1.0 U				2.0	0.25 J	0.2	1.0 U			
Naphthalene	100	5.0 U	1.0 UJ	1.0 U										
n-Butylbenzene n-Propylbenzene		1.0 U 1.0 U	1.0 UJ 1.0 U	1.0 U 1.0 U	1 U	0.5 U 0.5 U								
o-Xylene	10,000	1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
sec-Butylbenzene Styrene	100	1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.5 U	1.0 U							
Tert-butylbenzene	100	1.0 U	1.0 U	1.0 U		1 U	1.0 U			1.0 U	1.0 U			
Tert-butyl Alcohol		20.0 U	32	8	11.3	5.9 J				10 U	10 U			
Tert-amyl methyl ether Tert-butyl ethyl ether				1 U	1 U	1 U		1		1 U				
Tetrachloroethene	5.0	1.0 U	1.0 U	1.0 U	1 U	0.5 U	2.1	2.1	1.2	1.3	1.1			
Tetrahydrofuran Toluene	1,000	2.0 U 1.0 U	3.4 J 1.0 U	5.0 U 1.0 U		1.6 J 0.75 U								
trans-1,2-Dichloroethene	100	1.0 U	1.0 U	1.0 U	1 U	0.75 U	0.73 J	0.73 J		1.0 U	1.0 U			
trans-1,3-Dichloropropene				1.0 U					1	1.0 U				
trans-1,4-Dichloro-2-butene Trichloroethene	5.0	1.0 U	1.0 U	1.0 U 1.0 U		2.5 U 0.5 U		4.6	1.0 U	1.0 U 2.6	1.0 U 2.6			
Trichlorofluoromethane		1.0 U	1.0 U	1.0 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U			
Vinyl Chloride	2.0	0.2 J	1.0 U	1.0 U	1 U	0.2 U	10	10	9.5	5.0	4.8			
DISSOLVED TAL METALS (ug/L)														
Arsenic Dissolved	10	2.6 UJ	10	1.1	10.9	5 U		14	16	10.1	10.2			
Cadmium Dissolved Lead Dissolved	5.0 15	1.0 U 5.0 U	1.0 U 5.0 U	1.0 U 1.0 U		5 U					0.184 1.0 U			
Manganese Dissolved	-	1,700 J	9,700	1,770	1,360	1380	8,600 J			9,460	9,640			
TOTAL TAL METALS (110/L)														
TOTAL TAL METALS (ug/L) Arsenic	10	10 U	10 U	2.52	3.44	5 U	12	10	14	10.1	10.3			
Cadmium	5.0	1.0 U	1 U	0.129	0.5 U	5 U	1.0 U	1.0 U	1 U	0.468	0.547			
Iron Lead	15	3,600 2.0 UJ	260 5 U	2,690 0.586	3,140 0.523	4100 10 U	27,000	27,000 J 5.0 U	25,000	21,800 0.167	22,300 0.204			
Lead Manganese	10	2.0 UJ 1,700 J	2,700	1,920	1,700	10 U	8,800 J	_		9,690	9,950			
		, 3	,		, , , , , , ,		., 0	., 0	-,	.,	-,			
INDICATOR PARAMETERS (mg/L)		0.400	0.010	0.00	0.045	0.000	0.04	0.50	0.04	0.540	0.55			
Ammonia BOD		0.100 R	0.012 UJ 2 U	0.02 U 2.27 J+		0.033 J 2 U	0.61 6.9	0.58 6.9	0.31 4.1 J	0.546 1.76 J+	0.55 1.76 J+			
Chloride	250	2.9	2.3 J	2 UJ		2.5	2.3	2.3	2.0 J	2.4 J+				
COD		20 U	10 U	11.6 J+	9.39 J+ J+	8.1 J	20 U	20 U	13 U		11 J+			

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Historical Groundwater Chemistry Data

L&RR Superfund Site - North Smithfield, RI, 2006 - 2014

	l	1			I	MW 103 A								
LABORATORY ANALYTES	MCL ⁽¹⁾		DUP	/-102A	DUP	MW-1	102B			MW-103A				
		4/6/2015	4/6/2015	4/5/2016	4/5/2016	3/20/2012	3/24/2014	3/20/2012	6/19/2013	3/24/2014	4/6/2015	4/5/2016		
Volatile Organic Compounds (µg/L) 1,1,1,2-Tetrachloroethane		1 U	1 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.5 U		
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	200	1 U	1 U	0.5 U				1.0 U 0.5 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.5 U 0.5 U		
1,1,2-Trichloro-1,2,2-trifluoroethane		1 U	1 U	10 U	10 U		1.0 U		1.0 0	1.0 U	1 U	10 U		
1,1,2-Trichloroethane 1,1-Dichloroethane	5.0	1 U 9.5	1 U 9.19	0.75 U 9.8	0.75 U 10	1.0 U 1.0 U		1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.75 U 0.75 U		
1,1-Dichloroethene	7.0	1 U	1 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.5 U		
1,1-Dichloropropene 1,2,3-Trichlorobenzene		1 U	1 U	1 U				1.0 U 1.0 U	1.0 U 1.0 UJ	1.0 U 1.0 U	1 U	1 U		
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U		
1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	70	1 U	1 U	1 U				1.0 U 1.0 U	1.0 UJ 1.0 U	1.0 U 1.0 U	1 U	1 U		
1,2-Dibromo-3-chloropropane	0.2	0.0103 U	0.0104 U	0.02 U				5.0 U	1.0 U	<0.011 U	0.0104 U	0.021 U		
1,2-Dibromoethane 1,2-Dichlorobenzene	0.05 600	0.0103 U 1 U	0.0104 U 1 U	0.02 U				0.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	0.0104 U	0.021 U		
1,2-Dichloroethane	5.0	0.249	1 U	0.5 U				1.0 U	1.0 U	1.0 U	1 U	0.5 U		
1,2-Dichloropropane 1,3,5-Trichlorobenzene	5.0	1 U	1 U	1 U			1.0 U 1.0 U	1.0 U	1.0 U	1.0 U 1.0 U	1 U	1 U		
1,3,5-Trimethylbenzene		1 U	1 U 1 U	1 U				1.0 U	1.0 UJ	1.0 U	1 U	1 U 1 U		
1,3-Dichlorobenzene 1,3-Dichloropropane		1 U	1 U	1 U				1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	1 U		
1,4-Dichlorobenzene	75	1.47	1.62	1.6	1.6	1.0 U		1.0 U	1.0 U	1.0 U	1 U	1 U		
1,4-Dioxane 2,2-Dichloropropane		1.6 U 1 U	1.6 U	0.375 1 U	0.386 1 U	20.0 U 1.0 U		20.0 U 1.0 U	40 R 1.0 U	2 U 1.0 U	1.56 1 U	1.96 1 U		
2-Butanone		10 U	10 U	5 U				10 UJ 1.0 U	10.0 UJ	50.0 U	10 U	5 U		
2-Chlorotoluene 2-Hexanone	<u> </u>	1 U 5 U	1 U 5 U	1 U			1.0 U 5.0 U	1.0 U	1.0 U	1.0 U 5.0 U	1 U 5 U	1 U 5 U		
4-Chlorotoluene		1 U	1 U	1 U	1 U		1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U		
4-Isopropyltoluene 4-Methyl-2-pentanone		1 U 5 U	1 U	0.5 U			1.0 U 5.0 U	10 U	5.0 UJ	1.0 U 5.0 U	1 U	0.5 U 5 U		
Acetone		10 U	10 U	3.8 J	1.8 J	50 U	10.0 U	50 U	10.0 UJ	50.0 U	10 U	2.9 J		
Acrylonitrile Benzene	5.0	5 U 1.33	5 U 1.44	5 U	5 U	0.7 J	5.0 U 0.5	1.0 U	1.0 U	5.0 U 1.0 U	5 U	5 U 0.5 U		
Bromobenzene		1 U	1 U	1 U		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U		
Bromochloromethane Bromodichloromethane		1 U	1 U	1 U 0.5 U				1.0 U 0.5 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	1 U 0.5 U		
Bromoform		1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1 U	1 U		
Bromomethane Carbon disulfide		1 U	1 U	1 U			1.0 U 1.0 U	2.0 U	1.0 UJ	1.0 U 1.0 U	1 U	1 U		
Carbon Tetrachloride	5.0	1 U		0.5 U			1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.5 U		
Chlorobenzene Chloroethane	100	3.87 1.6	4.17 1.31	2.6	2.7 1.1	1.0 U 0.3 J		1.0 U 2.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.5 U		
Chloroform		1 U	1 U	0.75 U	0.75 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.75 U		
Chloromethane cis-1,2-Dichloroethene	70	1 U 31.5	1 U 31.7	2 U 38	2 U 39	2.0 U 1.0 U		2.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	2 U 0.5 U		
cis-1,3-Dichloropropene		1 U	1 U	0.5 U	0.5 U		1.0 U			1.0 U	1 U	0.5 U		
Dibromochloromethane Dibromomethane		1 U	1 U 1 U	0.5 U				0.5 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.5 U		
Dichlorodifluoromethane		2.28	2.47	1.6 J	1.8 J	1.0 UJ	1.0 U	1.0 UJ	1.0 U	1.0 U	1 U	2 U		
Ethanol TIC Ethylbenzene	700	50 U	50 U	0.5 U	0.5 U	1.0 U	50.0 U 1.0 U	1.0 U	1.0 U	50.0 U 1.0 U	50 U	0.5 U		
Ethyl Ether		2.87	3.04	2.5	2.6		1.0 U			1.0 U	1 U	1 U		
Hexachlorobutadiene Isopropyl Ether		1 U		0.5 U			1.0 U 1.0 U	0.4 U	1.0 UJ	1.0 U 1.0 U	1 U	0.5 U		
Isopropylbenzene		1 U	1 U	0.5 U			1.0 U	1.0 U	1.0 U	1.0 U	1 U	0.5 U		
m,p-Xylenes Methylene Chloride	10,000 5.0	2 U 1 U		1 U				2.0 U 2.0 U	2.0 U 1.0 U	<2 U 1.0 U	2 U 1 U	1 U		
Methyl tert-butyl Ether		1 U	1 U	1 U	1 U		1.0 U			1.0 U	1 U	1 U		
Naphthalene n-Butylbenzene	100	1 U	1 U	1 U				5.0 U 1.0 U	1.0 UJ 1.0 UJ	1.0 U 1.0 U	1 U	1 U 0.5 U		
n-Propylbenzene		1 U	1 U	0.5 U	0.5 U			1.0 U	1.0 U	1.0 U	1 U	0.5 U		
o-Xylene sec-Butylbenzene	10,000	1 U	1 U	1 U				1.0 U 1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	1 U 0.5 U		
Styrene	100	1 U	1 U			1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U			
Tert-butyl benzene Tert-butyl Alcohol		1 U 10 U	1 U	1 U				1.0 U 20.0 U	1.0 U 20 U	1.0 U 50 U	1 U 10 U	1 U 10 U		
Tert-amyl methyl ether		1 U	1 U	1 U	1 U		1 U	3		1 U	1 U	1 U		
Tert-butyl ethyl ether Tetrachloroethene	5.0	1 U 1.41	1 U	1 U	1 U	1.0 U	1 U	1.0 U	1.0 U	1 U 1.0 U	1 U	1 U 0.5 U		
Tetrahydrofuran		5 U	5 U	1.3 J	1.3 J	2.0 U	5.0 U	2.0 U	5.0 UJ	5.0 U	5 U	2 U		
Toluene trans-1,2-Dichloroethene	1,000 100	1 U		0.75 U 0.5 J	0.75 U 0.49 J	1.0 U 1.0 U		1.0 U	1.0 U 1.0 U	1.0 U 1.0 U	1 U	0.75 U 0.75 U		
trans-1,3-Dichloropropene		1 U	1 U	0.5 U	0.5 U		1.0 U	0		1.0 U	1 U	0.5 U		
trans-1,4-Dichloro-2-butene Trichloroethene	5.0	1 U 2.24	1 U 1.96	2.5 U 2.1	2.5 U 2.1	1.0 U	1.0 U 1.0 U	1.0 U	1.0 U	1.0 U 1.0 U	1 U	2.5 U 0.5 U		
Trichlorofluoromethane		1 U	1 U	1 U	1 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1 U	1 U		
Vinyl Chloride	2.0	4.66	4.4	5.2	5.3	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1 U	0.2 U		
DISSOLVED TAL METALS (ug/L)														
Arsenic Dissolved	10	10.3	10.5	14.7	16.4	7.1 U		1.9 UJ	10 U	0.979	1.16	3.5 J 5 U		
Cadmium Dissolved Lead Dissolved	5.0 15	0.5 U U	0.5 U U	5 U				0.2 J 5.0 U	1 U 5 U	1.0 U 0.6	0.658 J+ J+ 0.185	5 U 10 U		
Manganese Dissolved	-	8,730	8,790	7840	8010	7,400 J		41 J	58	50	52.3	48		
TOTAL TAL METALS (ug/L)														
Arsenic	10	10.1	9.92	8	9	3.5 J		10 U	10 U	0.951	2.05	5 U		
Cadmium Iron	5.0	0.0714 23,500	0.0784 26,100	5 U 25000	5 U 27000	1.0 U 22,000	0.379 2,380	1.0 U 34 J	1 U 34 UJ	0.177 177	0.726 303	5 U 33 J		
Lead	15	1 U	0.0725	10 U	10 U	5.0 U	0.422	1.5 UJ	5 U	0.107	5.79	2.6 J		
Manganese		9,090	9,370	7770	8430	7,200 J	2,270	45 J	65	49	89.3	42.5		
INDICATOR PARAMETERS (mg/L)														
Ammonia		0.476 J J	0.455 J J	0.515	0.471	0.79	0.0121	0.1 U	0.02 U	0.02 UJ		0.031 J		
BOD Chloride	250	5.39 2.07	5.51 1.97	8.5 1.91	9.4 1.75	8.4 1.9	0.992 J+ 2.0 UJ	3.2	2 U 3.3 J	3.08 J+ 2.0 UJ	2 U 3.91	2 U 3.53		
COD	200	10 U	10.6 J+ J+	22	20	20 U		20 U	7.4 UJ	12.6 J+	10 U	20 U		

Notes:

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Historical Groundwater Chemistry Data

L&RR Superfund Site - North Smithfield, RI, 2006 - 2014

		MW-104A							MW-201							
LABORATORY ANALYTES	MCL ⁽¹⁾		Split		IVIVV-10	4A					MVV-201					
		3/20/2012	3/20/2012		6/19/2013	3/24/2014	4/6/2015	4/5/2016	3/20/2012	6/19/2013	3/24/2014	4/6/2015	4/5/2016			
Volatile Organic Compounds (μg/L) 1,1,1,2-Tetrachloroethane		1.0	J 1.0	U	4.0 U	1.0 U	1 U	0.5 U	1.0 U	J 1.0 U	1.0 U	1 1 U	0.5 U			
1,1,1-Trichloroethane	200		J 1.0	U		1.0 U							0.5 U			
1,1,2,2-Tetrachloroethane		0.5	J 0.5	U	4.0 U	1.0 U			0.5 U	J 1.0 U			0.5 U			
1,1,2-Trichloro-1,2,2-trifluoroethane 1,1,2-Trichloroethane	5.0	1.0	J 1.0	U	4.0 U	1.0 U				J 1.0 U	1.0 U		10 U 0.75 U			
1,1-Dichloroethane		1.5	1.4		4.0 U	1.0 U	1 U	0.75 U	1.0 U	J 1.0 U	1.0 U	1 U	0.75 U			
1,1-Dichloroethene 1,1-Dichloropropene	7.0		J 1.0 J 2.0	U		1.0 U							0.5 U			
1,2,3-Trichlorobenzene			J 1.0	U		1.0 U			1.0 U				1 U			
1,2,3-Trichloropropane	70		J 1.0 J 1.0	U		1.0 U			1.0 U				1 U			
1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	70	1.5	J 1.0 1.8	U	4.0 UJ 4.0 U	1.0 U			1.0 U				1 U			
1,2-Dibromo-3-chloropropane	0.2		J 5.0	U		0.011 U			5.0 U				0.02 U			
1,2-Dibromoethane 1,2-Dichlorobenzene	0.05 600	0.02 1.1	J 1.0 1.2	U	4.0 U 4.0 U	1.0 U			0.02 U				0.02 U			
1,2-Dichloroethane	5.0	0.3	J 0.3	J	4.0 U	1.0 U	1 U	0.5 U	1.0 U	J 1.0 U	1.0 U	1 U	0.5 U			
1,2-Dichloropropane 1,3,5-Trichlorobenzene	5.0	0.3	J 1.0	U	4.0 U	1.0 U			1.0 U	J 1.0 U	1.0 U		1 U			
1,3,5-Trimethylbenzene		1.2	1.3		4.0 UJ	1.0 U	1 U	1 U	1.0 U	J 1.0 U			1 U			
1,3-Dichlorobenzene 1,3-Dichloropropane			J 1.0 J 1.0	U		1.0 U			1.0 U				1 U			
1,4-Dichlorobenzene	75	4.9	4.8	0	5.0	3.51	2.57	1.7	1.0 U				1 U			
1,4-Dioxane		480			310 J	313 J	193	102	20.0 U			1.6 U	0.144 U			
2,2-Dichloropropane 2-Butanone			J 1.0 JJ 10	U		1.0 U 10.0 U			1.0 U				1 U			
2-Chlorotoluene			J 1.0	Ü		1.0 U	1 U	1 U	1.0 U		1.0 U	1 U	1 U			
2-Hexanone 4-Chlorotoluene		1.0	J 1.0	U	4.0 U	5.0 U			1.0 U	J 1.0 U	5.0 U 1.0 U		5 U			
4-Isopropyltoluene		1.0	5 1.0	0	4.0 0	1.0 U				7 1.0 0	1.0 U	1 U	0.5 U			
4-Methyl-2-pentanone			J 25	U		5.0 U	-						5 U			
Acetone Acrylonitrile		50	J 3.7	J	40 UJ	10.0 U 5.0 U			50 U	J 10.0 U.	J 10.0 U 5.0 U	10 U 5 U	2.8 J 5 U			
Benzene	5.0	3.0	2.9		2.0 J	1.58	0.912	0.6	1.0 U		1.0 U	1 U	0.5 U			
Bromobenzene Bromochloromethane			J 2.0 J 1.0	U		1.0 U			1.0 U				1 U			
Bromodichloromethane			J 0.6	Ü		1.0 U							0.5 U			
Bromoform Bromomethane			J 1.0 J 2.0	U	4.0 UJ 4.0 UJ	1.0 U			1.0 U 2.0 U				1 U			
Carbon disulfide		2.0	2.0	UJ	4.0 03	1.0 U			2.0	1.0 0.	1.0 U		1 U			
Carbon Tetrachloride	5.0		J 1.0	U	4.0 U	1.0 U							0.5 U			
Chlorobenzene Chloroethane	100	6.1 2.0	6.1 J 2.0	U	3.3 J 4.0 U	2.24 1.0 U	1.06 1 U	0.65 1 U	1.0 U 2.0 U				0.5 U			
Chloroform		1.0	J 1.0	U	4.0 U	1.0 U	1 U	0.75 U	1.0 U	J 1.0 U	1.0 U	1 U	0.75 U			
Chloromethane cis-1,2-Dichloroethene	70		J 2.0 J 1.0	U		1.0 U			2.0 U				2 U 0.5 U			
cis-1,3-Dichloropropene	70	1.0	5 1.0	0	4.0 0	1.0 U				7 1.0 0	1.0 U		0.5 U			
Dibromochloromethane			J 1.0	U	4.0 U	1.0 U	-						0.5 U			
Dibromomethane Dichlorodifluoromethane			J 1.0 JJ 2.0	U	4.0 U 4.0 U	1.0 U		1 U	1.0 U 1.5 J		1.0 U	1 U	1 U			
Ethanol TIC						50 U					50.0 U					
Ethylbenzene Ethyl Ether	700	7.1	7.3		4.0 U	1.0 U 2.58	1 U	0.5 U 0.71 J	1.0 U	J 1.0 U	1.0 U	1 U	0.5 U			
Hexachlorobutadiene		0.4	J 0.6	U	4.0 UJ	1.0 U				J 1.0 U			0.5 U			
Isopropyl Ether Isopropylbenzene		6.1	5.8		4.0	1.0 U				J 1.0 U	1.0 U					
m,p-Xylenes	10,000		J 2.0	J	8.0 U	2.0 U	-									
Methylene Chloride	5.0	2.0	J 2.0	U	4.0 U	1.0 U				J 1.0 U						
Methyl tert-butyl Ether Naphthalene	100	32	49		19 J	0.161 21.4 U	1 U 6.99	1 U 5.4	5.0 U	J 1.0 U	1.0 U J 1.0 U					
n-Butylbenzene		1.0	J 1.0	U	4.0 UJ					J 1.0 U	J 1.0 U					
n-Propylbenzene o-Xylene	10,000	0.5 3.2	J 0.5 3.3	J	4.0 U 4.0 U	1.0 U							0.5 U			
sec-Butylbenzene		1.0	J 0.1	J	4.0 U	1.0 U	1 U	0.5 U	1.0 U	J 1.0 U	1.0 U	1 U				
Styrene Tert-butylbenzene	100		J 1.0 J 1.0	U		1.0 U			1.0 U				4 11			
Tert-butylbenzene Tert-butyl Alcohol		1.0 260	1.0	U	4.0 U	1.0 U	83.5	1 U	1.0 U				1 U			
Tert-amyl methyl ether						1.0	1 U	1 U			1 U	1 U	1 U			
Tert-butyl ethyl ether Tetrachloroethene	5.0	1.0	J 1.0	U	4.0 U	1.0 U				J 1.0 U	1 U					
Tetrahydrofuran		76.0			13 J	7.55	4.16	4.3	2.0 U	J 5.0 U	J 5.0 U	5 U	2 U			
Toluene trans-1,2-Dichloroethene	1,000 100		U 0.6 U 1.0	J		1.0 U	-									
trans-1,2-Dichloropernene trans-1,3-Dichloropropene	100	1.0	1.0		4.0 U	1.0 U	+		1.0	1.0 0	1.0 U		0.75 U			
trans-1,4-Dichloro-2-butene		4.0	1.			1.0 U	1 U	2.5 U		1.0	1.0 U	1 U	2.5 U			
Trichloroethene Trichlorofluoromethane	5.0		J 1.0 J 1.0	U		1.0 U							0.5 U			
Vinyl Chloride	2.0		J 1.0	Ü		1.0 U										
DIGOGLATED TAL METAL & C. C.																
DISSOLVED TAL METALS (ug/L) Arsenic Dissolved	10	69	91		35	44.8	37.0	68.1	10 U	J 10 U	1.0 U	0.088	5 U			
Cadmium Dissolved	5.0	1.0	J 2.5	U	1.0 U	1.0 U	0.5 U	5 U	1.0 U	J 1.0 U	1.0 U	0.5 U	5 U			
Lead Dissolved Manganese Dissolved	15 -		J 2.5 J 337	UJ	5.0 U 450	0.027 413	1 U 612	10 U 768	5.0 U			1 U				
-		550	JJ1		700	710	012	700	10 0	J.U.J	<u> </u>	1.00 0	0			
TOTAL TAL METALS (ug/L)	10	62	00.0		FO	E0.2	2.020	00	40	10 10	4.0	0.25	E			
Arsenic Cadmium	10 5.0	63 1.0	90.9 U 2.5	U	59 1.0 U	59.3 0.151	2,030 0.619	88 5 U	10 U				5 U			
Iron		11,000	10,800		26,000	27,500	176,000	19000	510	95 U	164.0	537	29 J			
Lead	15		J 2.5	UJ		7.68	10.0	10 U				3.94	10 U			
Manganese		310	J 325		730	661	1,670	853	11 J	3 U	<u> </u>	18.2	2.1 J			
INDICATOR PARAMETERS (mg/L)																
Ammonia		93	66.5		37	28.8	14.9 J J		0.1 U				0.075 U			
BOD Chloride	250	6.3 210	7.0 219		3.5 J 120	105 J- 2 U-		57.9	2.3	2.0 U			2 U 2.47			
OHIOHUE	200	130	117		59	70 J-			2.3	19 U						

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Historical Groundwater Chemistry Data

L&RR Superfund Site - North Smithfield, RI, 2006 - 2014

	1	г								
LABORATORY ANALYTES	MCL ⁽¹⁾					MW-20	02		\neg	
		3/20/2	2012	6/19/2	013	3/24/20)14	4/6/2015	5	4/5/2016
Volatile Organic Compounds (μg/L)		1.0	U	1.0	U	1.0	U	1		0.5 U
1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	200	1.0	U	1.0	U	1.0	U		U	0.5 U
1,1,2,2-Tetrachloroethane 1,1,2-Trichloro-1,2,2-trifluoroethane		0.5	U	1.0	U	1.0	U		U	0.5 U 10 U
1,1,2-Trichloroethane	5.0	1.0	U	1.0	U	1.0	U		U	0.75 U
1,1-Dichloroethane		1.0	U	1.0	U	1.0	U		U	0.75 U
1,1-Dichloroethene 1,1-Dichloropropene	7.0	1.0	U	1.0	U	1.0	U	1	U	0.5 U
1,2,3-Trichlorobenzene		1.0	U	1.0	UJ	1.0	U	1	U	1 U
1,2,3-Trichloropropane 1,2,4-Trichlorobenzene	70	1.0	U	1.0	U	1.0	U	1	U	1 U
1,2,4-Trimethylbenzene	70	1.0	Ü	1.0	U	1.0	Ü	1	U	1 U
1,2-Dibromo-3-chloropropane 1,2-Dibromoethane	0.2	5.0 0.02	U	1.0	\subset	0.011 1.0	\subset		U	0.02 U 0.02 U
1,2-Dibromoetrarie 1,2-Dichlorobenzene	600	1.0	U	1.0	U	1.0	U		U	1 U
1,2-Dichloroethane	5.0	1.0	U	1.0	U	1.0	U		U	0.5 U
1,2-Dichloropropane 1,3,5-Trichlorobenzene	5.0	1.0	U	1.0	U	1.0	U		U	1 U
1,3,5-Trimethylbenzene		1.0	U	1.0	UJ	1.0	U	1	U	1 U
1,3-Dichlorobenzene 1,3-Dichloropropane		1.0	U	1.0	U	1.0	U	1	U	1 U
1,4-Dichlorobenzene	75	1.0	U	1.0	U	1.0	U	1	U	1 U
1,4-Dioxane 2,2-Dichloropropane		20.0	U	40 1.0	R	1.0	U		U	0.142 U
2-Butanone		10	UJ	10.0	UJ	10.0	U	10	Ü	5 U
2-Chlorotoluene 2-Hexanone		1.0	U	1.0	U	1.0 5.0	U	1 5	U	1 U 5 U
2-Hexanone 4-Chlorotoluene	_	1.0	U	1.0	U	1.0	U	1	U	5 U
4-Isopropyltoluene		10			,	1.0	U		Ü	0.5 U
4-Methyl-2-pentanone Acetone	+	10 50	U	5.0 10.0	UJ	5.0 10.0	U	5 10	U	5 U 1.8 J
Acrylonitrile						5.0	U	5	U	5 U
Benzene Bromobenzene	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5 U
Bromochloromethane		1.0	U	1.0	U	1.0	U		U	1 U
Bromodichloromethane		0.5	U	1.0	U	1.0	U	1	U	0.5 U
Bromoform Bromomethane		1.0 2.0	U	1.0	UJ	1.0	U		U	1 U 1 U
Carbon disulfide						1.0	U	1	U	1 U
Carbon Tetrachloride Chlorobenzene	5.0 100	1.0	U	1.0	U	1.0	U		U	0.5 U
Chloroethane	100	2.0	Ü	1.0	U	1.0	U	1	U	1 U
Chloroform Chloromethane		1.0 2.0	U	1.0	\subset	1.0	\subset	1	U	0.75 U 2 U
cis-1,2-Dichloroethene	70	1.0	Ü	1.0	U	1.0	U		U	0.5 U
cis-1,3-Dichloropropene		0.5		4.0		1.0	U		U	0.5 U
Dibromochloromethane Dibromomethane		0.5 1.0	U	1.0	U	1.0	U	1	U	0.5 U
Dichlorodifluoromethane		1.0	UJ	1.0	U	1.0	U		U	2 U
Ethanol TIC Ethylbenzene	700	1.0	U	1.0	U	50.0 1.0	U	50 1	U	0.5 U
Ethyl Ether						1.0	U		U	1 U
Hexachlorobutadiene Isopropyl Ether		0.4	U	1.0	UJ	1.0	U		U	0.5 U
Isopropylbenzene		1.0	U	1.0	U	1.0	U		U	0.5 U
m,p-Xylenes	10,000	2.0	U	2.0	U	2.0	U		U	1 U
Methylene Chloride Methyl tert-butyl Ether	5.0	2.0	U	1.0	U	1.0	U		U	3 U 1 U
Naphthalene	100	5.0	U	1.0	UJ	1.0	U		U	1 U
n-Butylbenzene n-Propylbenzene		1.0	U	1.0	UJ	1.0	U	1	U	0.5 U
o-Xylene	10,000	1.0	U	1.0	U	1.0	U	1	U	1 U
sec-Butylbenzene Styrene	100	1.0	U	1.0	U	1.0	U		U	0.5 U
Tert-butylbenzene	100	1.0	U	1.0	U	1.0	U		U	1 U
Tert-butyl Alcohol		20.0	U	20	U	10 1	U		U	10 U
Tert-amyl methyl ether Tert-butyl ethyl ether						1	U		U	1 U
Tetrachloroethene	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5 U
Tetrahydrofuran Toluene	1,000	2.0	U	5.0 1.0	UJ	5.0 1.0	\subset		U	2 U 0.75 U
trans-1,2-Dichloroethene	100	1.0	Ü	1.0	U	1.0	U	1	U	0.75 U
trans-1,3-Dichloropropene trans-1,4-Dichloro-2-butene						1.0	U		U	0.5 U 2.5 U
Trichloroethene	5.0	1.0	U	1.0	U	1.0	U	1	U	0.5 U
Trichlorofluoromethane	0.0	1.0	U	1.0	U	1.0	U	1	U	1 U
Vinyl Chloride	2.0	0.5	U	1.0	U	1.0	U	1	U	0.2 U
DISSOLVED TAL METALS (ug/L)										
Arsenic Dissolved	10	1.9	UJ	10.0	U	1.0	U	1	U	5 U
Cadmium Dissolved Lead Dissolved	5.0 15	0.16 5.0	IJ	1.0 5.0	U	0.1 1.0	U	0.5 U 1	U	5 U 10 U
Manganese Dissolved	-	74	J	65	_	43.2	_	64.3	Í	66.1
TOTAL TAL METALS (ug/L)										
Arsenic	10	10	U	10.0	U	0.446			U	5 U
Cadmium	5.0	1.0	U	1.0	U	0.236		0.0934	4	1 J
Iron Lead	15	480 1.7	UJ	240 5.0	U	2,340 1.45		202 0.195	\dashv	54.1 10 U
Manganese		87	J	71		126		77.1	╛	66.5
INDICATOR RADAMETERS (****/L)									_	
INDICATOR PARAMETERS (mg/L) Ammonia		0.1	U	0.020	U	0.02	U			0.075 U
BOD		<u> </u>	R	2.0	U	34.4	J+		U	2 U
Chloride	250	34	,.	24	J	2	UJ	81.8	긔	85.5
COD		20	U	10	U	10.3	J+	10	U	10 J

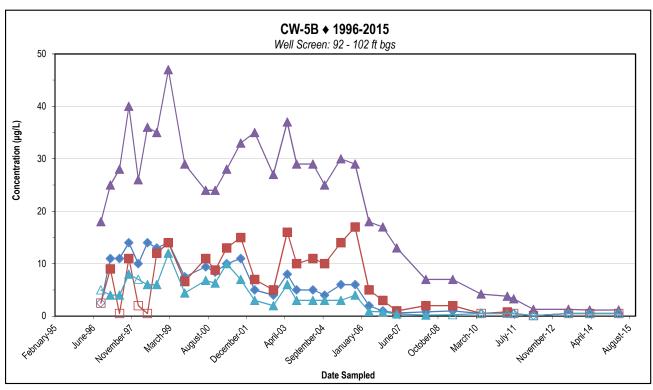
Notes:

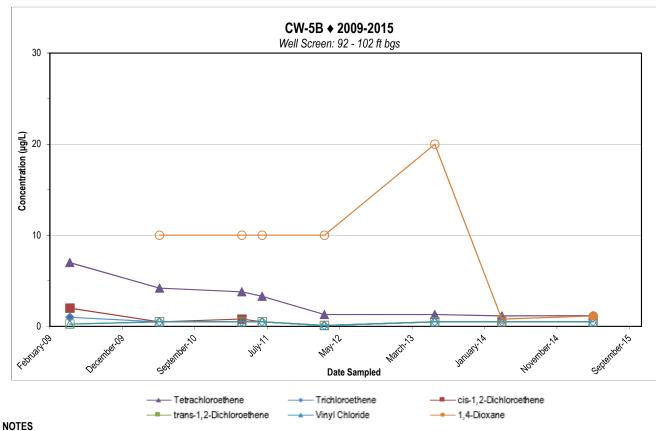
- (1) Post-Closure Monitoring Reports prior to 2010 referenced a historic Target Compound List (TCL) for Volatile Compounds. The list of analyzed VOCs has been expanded to include the 8260C list. Only concentrations of 1,4-dioxane, tetrahydrafurn, and tert-butyl alcohol have been updated based on results between 2010 and 2014.
- (2) MCL = Maximum Contaminant Level. Based on RIDEM Rules and Regulations for Groundwater Quality (March 2005).
- (3) **Bolded** values = analyte detected above the MCL

- (3) Bolded values = analyte detected above the MCL
 (4) "U" = compound not detected above the laboratory reporting limit
 (5) "R" = result was rejected during validation
 (6) "J" = estimated result value
 (7) "B" = analyte detected in sample and laboratory blank
 (8) "J+" = result estimated, biased high
 (9) Blank cells = compound not analyzed

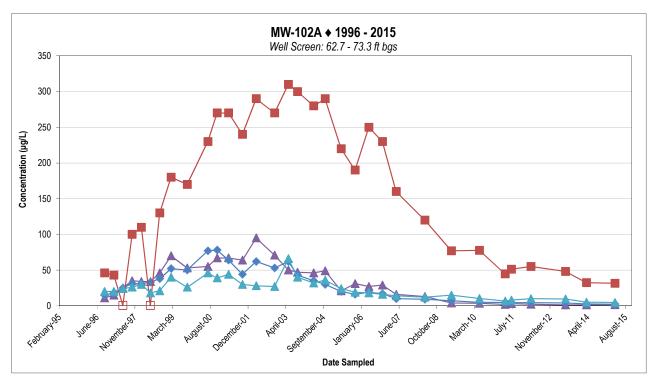


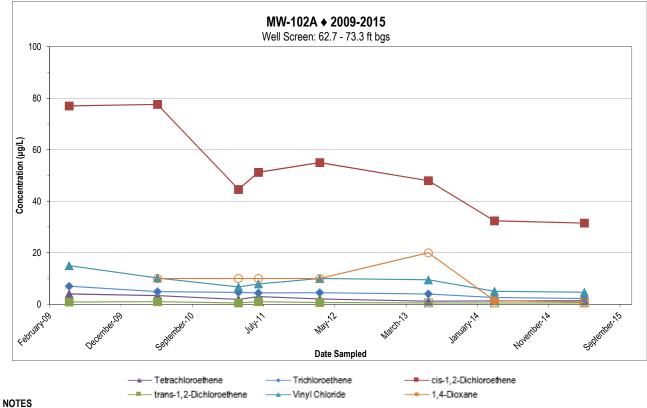
APPENDIX E: SELECT VOC CONCENTRATION OVER TIME (2009 – 2016)



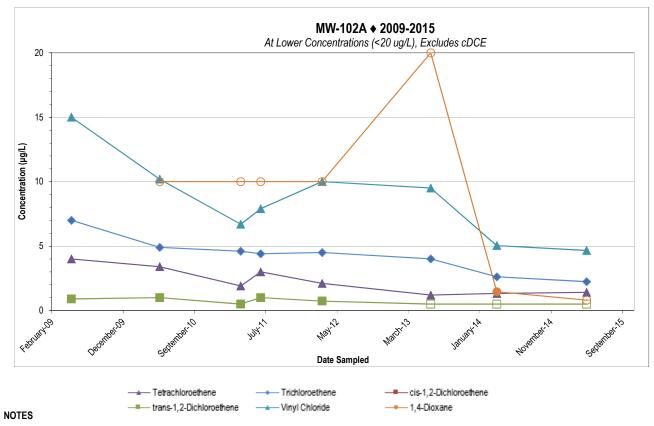


- 1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
- 2. Estimated values are posted "as-is" for comparison purposes.
- 3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.

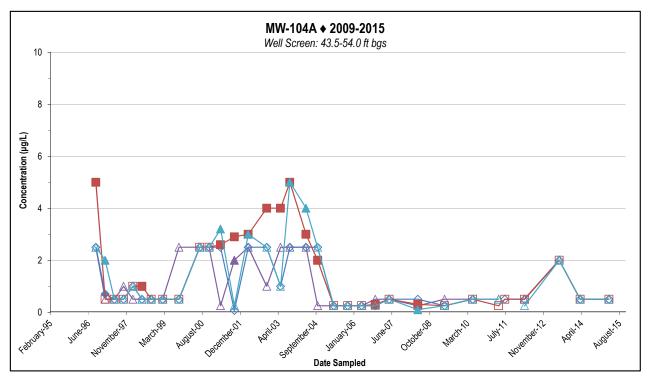


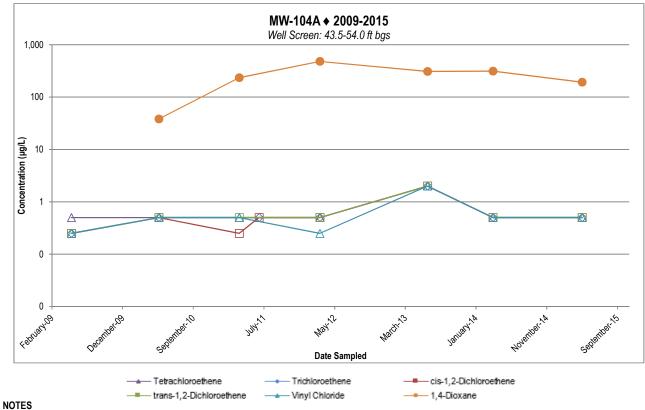


- 1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
- 2. Estimated values are posted "as-is" for comparison purposes.
- 3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



- 1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.
- 2. Estimated values are posted "as-is" for comparison purposes.
- 3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.





1. Detection limit for "non-detect" results (shown as hollow symbols) are posted as half of the laboratory's reporting limit.

- 2. Estimated values are posted "as-is" for comparison purposes.
- 3. Analysis of 1,4-dioxane began as part of the 2010 Annual Groundwater Monitoring event.



APPENDIX F: ANNUAL FLARE INLET LABORATORY ANALYTICAL RESULTS (NOVEMBER 2015)



December 2, 2015

Sean Driscoll Woodard & Curran, Inc. - RI 33 Broad Street - One Weybosset Hill Floor Providence, RI 02903

Project Location: L&RR. North Smithfield, RI

Client Job Number: Project Number: 224263.50

Laboratory Work Order Number: 15K0766

Meghan S. Kelley

Enclosed are results of analyses for samples received by the laboratory on November 16, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Meghan E. Kelley Project Manager

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B136275	9
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Certifications	13
Chain of Custody/Sample Receipt	15



Woodard & Curran, Inc. - RI

33 Broad Street - One Weybosset Hill Floor

PURCHASE ORDER NUMBER:

REPORT DATE: 12/2/2015

Providence, RI 02903 ATTN: Sean Driscoll

224263.50

PROJECT NUMBER:

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15K0766

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: L&RR. North Smithfield, RI

FIELD SAMPLE # LAB ID: MATRIX SAMPLE DESCRIPTION TEST SUB LAB

Influent 15K0766-01 Soil Gas EPA TO-15



CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

EPA TO-15

Qualifications:

L-01

Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side. Analyte & Samples(s) Qualified:

1,2,4-Trichlorobenzene

B136275-BS1

Hexachlorobutadiene

B136275-BS1

L-03

Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Benzyl chloride

15K0766-01[Influent], B136275-BLK1, B136275-BS1

Methyl tert-Butyl Ether (MTBE)

15K0766-01[Influent], B136275-BLK1, B136275-BS1

V-05

Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side. Analyte & Samples(s) Qualified:

Benzyl chloride

15K0766-01[Influent], B136275-BLK1, B136275-BS1

Isopropanol

15K0766-01[Influent], B136275-BLK1, B136275-BS1

Methyl tert-Butyl Ether (MTBE)

15K0766-01[Influent], B136275-BLK1, B136275-BS1

V-06

Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side. Analyte & Samples(s) Qualified:

Hexachlorobutadiene

Propene

B136275-BS1

B136275-BS1

The results of analyses reported only relate to samples submitted to the Con-Test Analytical Laboratory for testing.

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Johanna K. Harrington

Manager, Laboratory Reporting



ANALYTICAL RESULTS

Project Location: L&RR. North Smithfield, RI Date Received: 11/16/2015 Field Sample #: Influent Sample ID: 15K0766-01 Sample Matrix: Soil Gas Sampled: 11/12/2015 14:45 Sample Description/Location: Sub Description/Location: Canister ID: 1938 Canister Size: 6 liter Flow Controller ID: 4619 Sample Type: 4 hr Work Order: 15K0766 Initial Vacuum(in Hg): -28 Final Vacuum(in Hg): -9 Receipt Vacuum(in Hg): -9.7 Flow Controller Type: Fixed-Orifice Flow Controller Calibration RPD Pre and Post-Sampling:

EPA TO-15

4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH		ppl	bv		ug/m3			Date/Time	e	
Peneree 1900	Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst	
Bennesichtende	Acetone	3000	1200		7100	2900	600	11/19/15 21:31	TPH	
Promoticition or product Product	Benzene	2200	30		7200	96	600	11/19/15 21:31	TPH	
Promotemente	Benzyl chloride	ND	30	L-03, V-05	ND	160	600	11/19/15 21:31	TPH	
No. 10 10 10 10 10 10 10 1	Bromodichloromethane	ND	30		ND	200	600	11/19/15 21:31	TPH	
1,3 Bundiene ND 30	Bromoform	ND	30		ND	310	600	11/19/15 21:31	TPH	
Carbon Foliatified 10 10 10 10 10 10 10 1	Bromomethane	ND	30		ND	120	600	11/19/15 21:31	TPH	
Carbon Disulfide ND 300 ND 930 600 11/9/15 21:31 TPH Carbon Tetrachloride ND 30 ND 190 600 11/9/15 21:31 TPH Chlorochare 550 30 2500 140 600 11/9/15 21:31 TPH Chlorochare ND 30 260 179 600 11/9/15 21:31 TPH Chlorochare ND 30 ND 150 600 11/9/15 21:31 TPH Chloromethane ND 60 ND 120 600 11/9/15 21:31 TPH Cyclobecare 1500 30 ND 20 600 11/9/15 21:31 TPH 1.2-Dibromochlare (EDB) ND 30 ND 20 600 11/9/15 21:31 TPH 1.2-Dibromochlare BD 30 ND 180 600 11/9/15 21:31 TPH 1.2-Dibrloroc	1,3-Butadiene	ND	30		ND	66	600	11/19/15 21:31	TPH	
Charle ND 30 ND 190 600 11/19/15 21:31 TPH Chlorochenene 550 30 250 140 600 11/19/15 21:31 TPH Chlorochane 77 30 260 79 600 11/19/15 21:31 TPH Chlorochane 77 30 260 79 600 11/19/15 21:31 TPH Chlorochane ND 30 ND 120 600 11/19/15 21:31 TPH Chloromethane ND 30 ND 120 600 11/19/15 21:31 TPH Cyclohexane 1500 30 ND 260 600 11/19/15 21:31 TPH Dibromethane (EDB) ND 30 ND 260 600 11/19/15 21:31 TPH 12-Dibromethane (EDB) ND 30 ND 260 600 11/19/15 21:31 TPH 12-Dibromethane (EDB) ND 30 ND 260 600 11/19/15 21:31 TPH 12-Dibromethane (EDB) ND 30 ND 180 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 120 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 120 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 120 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 120 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene ND 30 ND 140 600 11/19/15 21:31 TPH 12-Dibrobenzene	2-Butanone (MEK)	3800	1200		11000	3500	600	11/19/15 21:31	TPH	
Chlorobenzene	Carbon Disulfide	ND	300		ND	930	600	11/19/15 21:31	TPH	
Chlorothane	Carbon Tetrachloride	ND	30		ND	190	600	11/19/15 21:31	TPH	
Chloroform	Chlorobenzene	550	30		2500	140	600	11/19/15 21:31	TPH	
Chloromethane ND 60 ND 120 600 11/19/15 21:31 TPH	Chloroethane	97	30		260	79	600	11/19/15 21:31	TPH	
Cyclohexane 1500 30 5200 100 600 11/19/15 21:31 TPI Dibromochloromethane ND 30 ND 260 600 11/19/15 21:31 TPI 1,2-Dibromocthane (EDB) ND 30 ND 230 600 11/19/15 21:31 TPI 1,2-Dichlorobenzene 36 30 340 180 600 11/19/15 21:31 TPI 1,3-Dichlorobenzene 370 30 2200 180 600 11/19/15 21:31 TPI 1,4-Dichlorochane 230 30 2900 150 600 11/19/15 21:31 TPI 1,1-Dichlorochane 170 30 2900 150 600 11/19/15 21:31 TPI 1,1-Dichlorochylane 170 30 170 120 600 11/19/15 21:31 TPI 1,1-Dichlorochylane 170 30 170 120 600 11/19/15 21:31 TPI 1,1-Dichlorochylane 170 30 ND 120	Chloroform	ND	30		ND	150	600	11/19/15 21:31	TPH	
Dibromochloromethane ND 30 ND 260 600 11/19/15 21:31 TPH 1,2-Dibromochlane (EDB) ND 30 ND 230 600 11/19/15 21:31 TPH 1,2-Dibromochlane (EDB) ND 30 ND 180 600 11/19/15 21:31 TPH 1,3-Dibrhorobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 1,4-Dichlorobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 1,4-Dichlorobenzene ND 30 ND 180 600 11/19/15 21:31 TPH 1,4-Dichloromethane (Freon 12) 590 30 2200 180 600 11/19/15 21:31 TPH 1,1-Dichloroethane ND 30 30 3950 120 600 11/19/15 21:31 TPH 1,1-Dichloroethane ND 30 ND 120 600 11/19/15 21:31 TPH 1,1-Dichloroethylene ND 30 ND 120 600 11/19/15 21:31 TPH 1,1-Dichloroethylene ND 30 ND 120 600 11/19/15 21:31 TPH 1,1-Dichloroethylene ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 140 600 11/19/15 21:31 TPH 1,1-Dichloroptopane ND 30 ND 30 30 30 30 30 30 30 3	Chloromethane	ND	60		ND	120	600	11/19/15 21:31	TPH	
1,2-Dichloromethane (EDB)	Cyclohexane	1500	30		5200	100	600	11/19/15 21:31	TPH	
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Dichlorodifluoromethane (Freon 12)	1,3-Dichlorobenzene	ND	30		ND	180	600	11/19/15 21:31	TPH	
1,1-Dichloroethane	1,4-Dichlorobenzene	370	30		2200	180	600	11/19/15 21:31	TPH	
1,2-Dichloroethane	Dichlorodifluoromethane (Freon 12)	590	30		2900	150	600	11/19/15 21:31	TPH	
1,1-Dichloroethylene	1,1-Dichloroethane	230	30		950	120	600	11/19/15 21:31	TPH	
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1,2-Dichloropropane ND 30 ND 140 600 11/19/15 21:31 TPH cis-1,3-Dichloropropene ND 30 ND 140 600 11/19/15 21:31 TPH trans-1,3-Dichloropropene ND 30 ND 140 600 11/19/15 21:31 TPH 1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114) 100 30 700 210 600 11/19/15 21:31 TPH 1,4-Dioxane 340 300 1200 1100 600 11/19/15 21:31 TPH Ethanol 11000 1200 20000 2300 600 11/19/15 21:31 TPH Ethyl Acetate 620 30 2200 110 600 11/19/15 21:31 TPH Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:3	cis-1,2-Dichloroethylene	910	30		3600	120	600	11/19/15 21:31	TPH	
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trans-1,3-Dichloropropene	1,2-Dichloropropane	ND	30		ND	140	600	11/19/15 21:31	TPH	
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114) 100 30 700 210 600 11/19/15 21:31 TPH 1,4-Dioxane 340 300 1200 1100 600 11/19/15 21:31 TPH Ethanol 11000 1200 20000 2300 600 11/19/15 21:31 TPH Ethyl Acetate 620 30 2200 110 600 11/19/15 21:31 TPH Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	cis-1,3-Dichloropropene	ND	30		ND	140	600	11/19/15 21:31	TPH	
1,4-Dioxane 340 300 1200 1100 600 11/19/15 21:31 TPH Ethanol 11000 1200 20000 2300 600 11/19/15 21:31 TPH Ethyl Acetate 620 30 2200 110 600 11/19/15 21:31 TPH Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	trans-1,3-Dichloropropene	ND	30		ND	140	600	11/19/15 21:31	TPH	
Ethanol 11000 1200 20000 2300 600 11/19/15 21:31 TPH Ethyl Acetate 620 30 2200 110 600 11/19/15 21:31 TPH Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	100	30		700	210	600	11/19/15 21:31	TPH	
Ethyl Acetate 620 30 2200 110 600 11/19/15 21:31 TPH Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	1,4-Dioxane	340	300		1200	1100	600	11/19/15 21:31	TPH	
Ethylbenzene 4100 30 18000 130 600 11/19/15 21:31 TPH 4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	Ethanol	11000	1200		20000	2300	600	11/19/15 21:31	TPH	
4-Ethyltoluene 570 30 2800 150 600 11/19/15 21:31 TPH Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	Ethyl Acetate	620	30		2200	110	600	11/19/15 21:31	TPH	
Heptane 1500 30 6200 120 600 11/19/15 21:31 TPH	Ethylbenzene	4100	30		18000	130	600	11/19/15 21:31	TPH	
	4-Ethyltoluene	570	30		2800	150	600	11/19/15 21:31	TPH	
Hexachlorobutadiene ND 30 ND 320 600 11/19/15 21:31 TPH	Heptane	1500	30		6200	120	600	11/19/15 21:31	TPH	
	Hexachlorobutadiene	ND	30		ND	320	600	11/19/15 21:31	TPH	



ANALYTICAL RESULTS

Project Location: L&RR. North Smithfield, RI Date Received: 11/16/2015 Field Sample #: Influent Sample ID: 15K0766-01 Sample Matrix: Soil Gas Sampled: 11/12/2015 14:45 Sample Description/Location: Sub Description/Location: Canister ID: 1938 Canister Size: 6 liter Flow Controller ID: 4619 Sample Type: 4 hr Work Order: 15K0766 Initial Vacuum(in Hg): -28 Final Vacuum(in Hg): -9 Receipt Vacuum(in Hg): -9.7 Flow Controller Type: Fixed-Orifice Flow Controller Calibration RPD Pre and Post-Sampling:

EPA TO-15

	ppbv ug/m3		Date/Time					
Analyte	Results	RL	Flag/Qual	Results	RL	Dilution	Analyzed	Analyst
Hexane	1600	1200		5800	4200	600	11/19/15 21:31	TPH
2-Hexanone (MBK)	ND	30		ND	120	600	11/19/15 21:31	TPH
Isopropanol	1800	1200	V-05	4300	2900	600	11/19/15 21:31	TPH
Methyl tert-Butyl Ether (MTBE)	ND	30	L-03, V-05	ND	110	600	11/19/15 21:31	TPH
Methylene Chloride	470	300		1600	1000	600	11/19/15 21:31	TPH
4-Methyl-2-pentanone (MIBK)	ND	30		ND	120	600	11/19/15 21:31	TPH
Naphthalene	140	30		740	160	600	11/19/15 21:31	TPH
Propene	9400	1200		16000	2100	600	11/19/15 21:31	TPH
Styrene	160	30		670	130	600	11/19/15 21:31	TPH
1,1,2,2-Tetrachloroethane	ND	30		ND	210	600	11/19/15 21:31	TPH
Tetrachloroethylene	1000	30		7100	200	600	11/19/15 21:31	TPH
Tetrahydrofuran	940	30		2800	88	600	11/19/15 21:31	TPH
Toluene	6000	30		23000	110	600	11/19/15 21:31	TPH
1,2,4-Trichlorobenzene	ND	30		ND	220	600	11/19/15 21:31	TPH
1,1,1-Trichloroethane	ND	30		ND	160	600	11/19/15 21:31	TPH
1,1,2-Trichloroethane	ND	30		ND	160	600	11/19/15 21:31	TPH
Trichloroethylene	120	30		670	160	600	11/19/15 21:31	TPH
Trichlorofluoromethane (Freon 11)	ND	120		ND	670	600	11/19/15 21:31	TPH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	120		ND	920	600	11/19/15 21:31	TPH
1,2,4-Trimethylbenzene	1500	30		7300	150	600	11/19/15 21:31	TPH
1,3,5-Trimethylbenzene	720	30		3600	150	600	11/19/15 21:31	TPH
Vinyl Acetate	ND	600		ND	2100	600	11/19/15 21:31	TPH
Vinyl Chloride	830	30		2100	77	600	11/19/15 21:31	TPH
m&p-Xylene	4600	60		20000	260	600	11/19/15 21:31	TPH
o-Xylene	4100	30		18000	130	600	11/19/15 21:31	TPH

Surrogates % Recovery % REC Limits

4-Bromofluorobenzene (1) 114 70-130 11/19/15 21:31



Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15		Pressure	Pre	Pre-Dil Initial	Pre-Dil Final	Default Injection	Actual Injection	
Lab Number [Field ID]	Batch	Dilution	Dilution	mL	mL	mL	mL	Date
15K0766-01 [Influent]	B136275	1.5	200	5	1000	400	200	11/19/15



39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results RI	ug/m3 Results RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B136275 - TO-15 Prep									
Blank (B136275-BLK1)			Prepared &	Analyzed: 11	/19/15				
Acetone	ND 1.4								
Benzene	ND 0.03								
Benzyl chloride	ND 0.03								L-03, V-05
Bromodichloromethane	ND 0.03								
Bromoform	ND 0.03								
Bromomethane	ND 0.03								
,3-Butadiene	ND 0.03								
-Butanone (MEK)	ND 1.4								
Carbon Disulfide	ND 0.35								
Carbon Tetrachloride	ND 0.03								
Chlorobenzene	ND 0.03								
Chloroethane	ND 0.03								
Chloroform	ND 0.03								
Chloromethane	ND 0.07)							
Cyclohexane	ND 0.03								
Dibromochloromethane	ND 0.03								
,2-Dibromoethane (EDB)	ND 0.03								
,2-Dichlorobenzene	ND 0.03								
,3-Dichlorobenzene	ND 0.03								
,4-Dichlorobenzene	ND 0.03								
Dichlorodifluoromethane (Freon 12)	ND 0.03								
,1-Dichloroethane	ND 0.03								
,2-Dichloroethane	ND 0.03								
,1-Dichloroethylene	ND 0.03								
sis-1,2-Dichloroethylene	ND 0.03								
rans-1,2-Dichloroethylene	ND 0.03								
,2-Dichloropropane	ND 0.03								
sis-1,3-Dichloropropene	ND 0.03								
rans-1,3-Dichloropropene	ND 0.03								
,2-Dichloro-1,1,2,2-tetrafluoroethane	ND 0.03								
Freon 114)									
,4-Dioxane	ND 0.33								
Ethanol	ND 1.4								
Ethyl Acetate	ND 0.03								
Ethylbenzene	ND 0.03								
-Ethyltoluene	ND 0.03								
leptane	ND 0.03								
Hexachlorobutadiene	ND 0.03								
Iexane	ND 1.4								
-Hexanone (MBK)	ND 0.03								
sopropanol	ND 1.4								V-05
Methyl tert-Butyl Ether (MTBE)	ND 0.03								L-03, V-05
Methylene Chloride	ND 0.35								
-Methyl-2-pentanone (MIBK)	ND 0.03								
Japhthalene	ND 0.03								
Propene	ND 1.4								
Styrene	ND 0.03								Page 9 of



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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	, RL	ug/m3 Results RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qua	
Batch B136275 - TO-15 Prep											
Blank (B136275-BLK1)			· ·	Prepared & A	analyzed: 11	/19/15					
1,1,2,2-Tetrachloroethane	ND	0.035									
Tetrachloroethylene	ND	0.035									
Fetrahydrofuran	ND	0.035									
Γoluene	ND	0.035									
1,2,4-Trichlorobenzene	ND	0.035									
1,1,1-Trichloroethane	ND	0.035									
1,1,2-Trichloroethane	ND	0.035									
Γrichloroethylene	ND	0.035									
Γrichlorofluoromethane (Freon 11)	ND	0.14									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14									
1,2,4-Trimethylbenzene	ND	0.035									
1,3,5-Trimethylbenzene	ND	0.035									
Vinyl Acetate	ND	0.70									
Vinyl Chloride	ND	0.035									
n&p-Xylene	ND	0.070									
o-Xylene	ND	0.035									
Surrogate: 4-Bromofluorobenzene (1)	9.12			8.00		114	70-130				
LCS (B136275-BS1)				Prepared & Analyzed: 11/19/15							
Acetone	4.37			5.00		87.5	70-130				
Benzene	4.82			5.00		96.4	70-130				
Benzyl chloride	3.34			5.00		66.8 *	70-130			L-03, V-	
Bromodichloromethane	5.00			5.00		99.9	70-130				
Bromoform	6.04			5.00		121	70-130				
Bromomethane	4.78			5.00		95.6	70-130				
1,3-Butadiene	4.32			5.00		86.3	70-130				
2-Butanone (MEK)	5.38			5.00		108	70-130				
Carbon Disulfide	4.94			5.00		98.8	70-130				
Carbon Tetrachloride	4.98			5.00		99.7	70-130				
Chlorobenzene	5.30			5.00		106	70-130				
Chloroethane	4.46			5.00		89.2	70-130				
Chloroform	5.58			5.00		112	70-130				
Chloromethane	4.54			5.00		90.7	70-130				
Cyclohexane	5.56			5.00		111	70-130				
Dibromochloromethane	5.56			5.00		111	70-130				
,2-Dibromoethane (EDB)	5.29			5.00		106	70-130				
1,2-Dichlorobenzene	6.17			5.00		123	70-130				
,3-Dichlorobenzene	6.19			5.00		124	70-130				
,4-Dichlorobenzene	6.27			5.00		125	70-130				
Dichlorodifluoromethane (Freon 12)	6.19			5.00		124	70-130				
,1-Dichloroethane	5.15			5.00		103	70-130				
,2-Dichloroethane	5.46			5.00		109	70-130				
,1-Dichloroethylene	5.46			5.00		109	70-130				
ris-1,2-Dichloroethylene	5.24			5.00		105	70-130				
rans-1,2-Dichloroethylene	4.76			5.00		95.2	70-130				
,2-Dichloropropane	4.76			5.00		87.1	70-130				



 ${\it Surrogate: 4-Bromofluor obenzene~(1)}$

9.30

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results RL	ug/m3 Results RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B136275 - TO-15 Prep									
LCS (B136275-BS1)			Prepared & A	Analyzed: 11/19)/15				
cis-1,3-Dichloropropene	4.31		5.00		86.2	70-130			
trans-1,3-Dichloropropene	3.99		5.00		79.7	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	4.97		5.00		99.5	70-130			
1,4-Dioxane	5.62		5.00		112	70-130			
Ethanol	4.67		5.00		93.4	70-130			
Ethyl Acetate	4.95		5.00		99.0	70-130			
Ethylbenzene	5.60		5.00		112	70-130			
4-Ethyltoluene	5.28		5.00		106	70-130			
Heptane	5.03		5.00		101	70-130			
Hexachlorobutadiene	7.32		5.00		146 *	70-130			L-01, V-0
Hexane	3.57		5.00		71.5	70-130			
2-Hexanone (MBK)	5.12		5.00		102	70-130			
Isopropanol	3.56		5.00		71.1	70-130			V-0:
Methyl tert-Butyl Ether (MTBE)	2.60		5.00		51.9 *	70-130			V-05, L-03
Methylene Chloride	5.51		5.00		110	70-130			
4-Methyl-2-pentanone (MIBK)	4.85		5.00		97.1	70-130			
Naphthalene	5.32		5.00		106	70-130			
Propene	6.23		5.00		125	70-130			V-0
Styrene	5.65		5.00		113	70-130			
1,1,2,2-Tetrachloroethane	5.24		5.00		105	70-130			
Tetrachloroethylene	5.39		5.00		108	70-130			
Tetrahydrofuran	5.86		5.00		117	70-130			
Toluene	5.28		5.00		106	70-130			
1,2,4-Trichlorobenzene	6.93		5.00		139 *	70-130			L-0
1,1,1-Trichloroethane	4.40		5.00		88.0	70-130			
1,1,2-Trichloroethane	5.22		5.00		104	70-130			
Trichloroethylene	4.91		5.00		98.2	70-130			
Trichlorofluoromethane (Freon 11)	5.52		5.00		110	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	6.22		5.00		124	70-130			
1,2,4-Trimethylbenzene	5.22		5.00		104	70-130			
1,3,5-Trimethylbenzene	5.10		5.00		102	70-130			
Vinyl Acetate	4.68		5.00		93.7	70-130			
Vinyl Chloride	4.59		5.00		91.8	70-130			
m&p-Xylene	10.4		10.0		104	70-130			
o-Xylene	5.36		5.00		107	70-130			

8.00

116

70-130



FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-01	Laboratory fortified blank /laboratory control sample recovery outside of control limits. Data validation is not affected since all results are "not detected" for all samples in this batch for this compound and bias is on the high side.
L-03	Laboratory fortified blank/laboratory control sample recovery is outside of control limits. Reported value for this compound is likely to be biased on the low side.
V-05	Continuing calibration did not meet method specifications and was biased on the low side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the low side.
V-06	Continuing calibration did not meet method specifications and was biased on the high side for this compound. Increased uncertainty is associated with the reported value which is likely to be biased on the high side.



CERTIFICATIONS

Certified Analyses included in this Report

1,1,2,2-Tetrachloroethane

Analyte	Certifications
EPA TO-15 in Air	
Acetone	AIHA,NY,ME
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
Bromoform	AIHA,NJ,NY,VA,ME
Bromomethane	AIHA,FL,NJ,NY,ME
1,3-Butadiene	AIHA,NJ,NY,VA,ME
2-Butanone (MEK)	AIHA,FL,NJ,NY,VA,ME
Carbon Disulfide	AIHA,NJ,NY,VA,ME
Carbon Tetrachloride	AIHA,FL,NJ,NY,VA,ME
Chlorobenzene	AIHA,FL,NJ,NY,VA,ME
Chloroethane	AIHA,FL,NJ,NY,VA,ME
Chloroform	AIHA,FL,NJ,NY,VA,ME
Chloromethane	AIHA,FL,NJ,NY,VA,ME
Cyclohexane	AIHA,NJ,NY,VA,ME
Dibromochloromethane	AIHA,NY,ME
1,2-Dibromoethane (EDB)	AIHA,NJ,NY,ME
1,2-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
1,3-Dichlorobenzene	AIHA,NJ,NY,ME
1,4-Dichlorobenzene	AIHA,FL,NJ,NY,VA,ME
Dichlorodifluoromethane (Freon 12)	AIHA,NY,ME
1,1-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,2-Dichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1-Dichloroethylene	AIHA,FL,NJ,NY,VA,ME
cis-1,2-Dichloroethylene	AIHA,FL,NY,VA,ME
trans-1,2-Dichloroethylene	AIHA,NJ,NY,VA,ME
1,2-Dichloropropane	AIHA,FL,NJ,NY,VA,ME
cis-1,3-Dichloropropene	AIHA,FL,NJ,NY,VA,ME
trans-1,3-Dichloropropene	AIHA,NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	AIHA,NJ,NY,VA,ME
1,4-Dioxane	AIHA,NJ,NY,VA,ME
Ethanol	AIHA
Ethyl Acetate	AIHA
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
4-Ethyltoluene	AIHA,NJ
Heptane	AIHA,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Hexane	AIHA,FL,NJ,NY,VA,ME
2-Hexanone (MBK)	AIHA
Isopropanol	AIHA,NY,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
4-Methyl-2-pentanone (MIBK)	AIHA,FL,NJ,NY,ME
Naphthalene	NY,ME
Propene	AIHA
Styrene	AIHA,FL,NJ,NY,VA,ME
L. L. O. O. Traduca de La maradh a mar	ATHA EL MINIZIA ME

AIHA,FL,NJ,NY,VA,ME



CERTIFICATIONS

Certified Analyses included in this Report

Analyte Certifications

EPA TO-15 in Air	
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
Tetrahydrofuran	AIHA
Toluene	AIHA,FL,NJ,NY,VA,ME
1,2,4-Trichlorobenzene	AIHA,NJ,NY,VA,ME
1,1,1-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
1,1,2-Trichloroethane	AIHA,FL,NJ,NY,VA,ME
Trichloroethylene	AIHA,FL,NJ,NY,VA,ME
Trichlorofluoromethane (Freon 11)	AIHA,NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,NJ,NY,VA,ME
1,2,4-Trimethylbenzene	AIHA,NJ,NY,ME
1,3,5-Trimethylbenzene	AIHA,NJ,NY,ME
Vinyl Acetate	AIHA,FL,NJ,NY,VA,ME
Vinyl Chloride	AIHA,FL,NJ,NY,VA,ME
m&p-Xylene	AIHA,FL,NJ,NY,VA,ME
o-Xylene	AIHA,FL,NJ,NY,VA,ME

 $The \ CON\text{-}TEST \ Environmental \ Laboratory \ operates \ under \ the \ following \ certifications \ and \ accreditations:$

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC	100033	02/1/2016
MA	Massachusetts DEP	M-MA100	06/30/2016
CT	Connecticut Department of Publilc Health	PH-0567	09/30/2017
NY	New York State Department of Health	10899 NELAP	04/1/2016
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2016
RI	Rhode Island Department of Health	LAO00112	12/30/2015
NC	North Carolina Div. of Water Quality	652	12/31/2015
NJ	New Jersey DEP	MA007 NELAP	06/30/2016
FL	Florida Department of Health	E871027 NELAP	06/30/2016
VT	Vermont Department of Health Lead Laboratory	LL015036	07/30/2016
WA	State of Washington Department of Ecology	C2065	02/23/2016
ME	State of Maine	2011028	06/9/2017
VA	Commonwealth of Virginia	460217	12/14/2015
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2016

CHAIN OF CUSTODY RECORD (AIR)

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

39 Spruce Street Pa

ANALYTICAL LABO	rax: 4	13-525-6405		Complete and Control College	epkester T	iásselnoujné Tim			NAL'	YSIS R	EQUES	TED	UW, IV	AUIC	120		
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													<u> </u>				
Comments: NITIAL TVX	-Pio = 15	2 000			Ple	ase use the fol	lowing co	des to indic	ate p	ossible	sample						
	- P10 = 14	· • • • • • • • • • • • • • • • • • • •	*		н	concentration - High; M - Med								<u>N</u>	latrix Code	<u>5:</u>	
Relinquished by: (sign		Date/Time:		i Limir Reg		Carra	Requirer	ecet:	i i				-		G = SOIL G/		
Reminduished by: (sign	duie)	Date/Time.	MA			Special		10-110-5						A	a = indooi Mb = ambii	ENT	
Received by: (signatur	re)	Date/Time:					MA MC	P Required	1						S = SUB SL/ I = DUP	B	
Not 2/100]					В	L = BLANK		
Relinguished by: (sign	Relinquished by: (signature) Date/Time:		CTF				CT RO	P Required						C) = Other		
Received by: (signatu	re) ^	Date/Time:	<u> </u>				Ent	ianced Data	1								
$n \wedge 1$	ust	Willed 5 1780	Other		·····		Packaç	je Required			NELAC :	ind Al	HA-LJ	IP, LI	.C Accredit	ed	
Relinquished by: (sign		Date/Time:		JND TIME (F	BUSINESS D	AYS) STARTS A	T 9:00 AN	THE DAY	\FTER	SAMPL	E RECEI	PT UN	ILESS	THER	E ARE		
			QUESTION	S ON THIS (CHAIN, IF I	THIS FORM IS N	OT FILLE	OUT COM	PLETE	LY OR I	S INCOR	RECT	, TURI	NARO	UND TIME		
Received by: (signature) Date/Time: CANNOT S					ALL OUES	TIONS HAVE B	FEN ANSW	FRED.									





Page 1 of 2

39 Spruce St. East Longmeadow, MA. 01028

P: 413-525-2332 F: 413-525-6405

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AIR Only Receipt Checklist

CLIENT NAME: Worthard & Con	TAN RE	CEIVED BY:	Ŧ	DATE: 11/10/15			
1) Was the chain(s) of custody relinquished	d and signed?	7	Yes No				
2) Does the chain agree with the samples? If not, explain:		8	Yes No				
3) Are all the samples in good condition? If not, explain:			Yes No				
4) Are there any samples "On Hold"?		•	Yes No	Stored where:			
5) Are there any RUSH or SHORT HOLDING	TIME samples?	,	Yes No				
Who was notified Da	te	Time					
6) Location where samples are stored:	arlab		Permission to subcontract samples? Yes No (Walk-in clients only) if not already approved Client Signature:				
7) Number of cans Individually Certified or	Batch Certified?	_nore					
Containers received at Con-Test							
		# of Conta	ainers	Types (Size, Duration)			
Summa Cans (TO-14/TO-15/API Tedlar Bags	l)	<u> </u>					
TO-17 Tubes							
Regulators				450			
Restrictors							
Hg/Hopcalite Tube (NIOSH 6009	N Property of the second secon	1					
(TO-4A/ TO-10A/TO-13) PUFs							
PCB Florisil Tubes (NIOSH 5503)							
Air cassette							
PM 2.5/PM 10							
TO-11A Cartridges							
Other Unused Summas/PUF Media:		Unused Regula	ators:				
1) Was all media (used & unused) checked into the WASP?							
2) Were all returned summa cans, Restrictors & Regulators and PUF's documented as returned in the Air Lab Inbound/Outbound Excel Spreadsheet?							
Laboratory Comments:	1						
1938		461	9				

Page 2 of 2 Login Sample Receipt Checklist

(Rejection Criteria Listing - Using Sample Acceptance Policy)
Any False statement will be brought to the attention of Client

Question	Answer (True/Fals	<u>se)</u>	Comment
	T/F/NA		
The coolers'/boxes' custody seal, if present, is intact.			
The cooler or samples do not appear to have been compromised or tampered with.	T		
3) Samples were received on ice.	TUA		
4) Cooler Temperature is acceptable.	- LA		
5) Cooler Temperature is recorded.	M		
6) COC is filled out in ink and legible.			
7) COC is filled out with all pertinent information.			
8) Field Sampler's name present on COC.			
9) Samples are received within Holding Time.			
10) Sample containers have legible labels.	1		
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	1		
12) Sample collection date/times are provided.	T		
13) Appropriate sample/media containers are used.			
14) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T		
15) Trip blanks provided if applicable.			
Doc #278 Rev. 5 October 2014	Who notified of False statements? Log-In Technician Initials: Date/Time:		
	ALF	11/16/15	1720

nt/femule set: 1 tubing: 2ft



woodardcurran.com commitment & integrity drive results