Phase 2 Site Assessment Report
Former Suds Up Laundromat and Dry Cleaning
Portland, Maine
Section 3.6 Revised

December 2015

Prepared for:

Department of Environmental Protection

17 State House Station
Augusta, Maine 04333

Prepared by:

MAI ENVIRONMENTAL

1034 Broadway
South Portland, Maine 04106

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John S. Marchewka

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Section 1 Introduction

1.1 Project Description and Objectives

This report provides the results of the Phase 2 Environmental Assessment performed for the Maine Department of Environmental Protection (MEDEP) at the former Suds Up Laundromat and Dry Cleaning, located at 500 Washington Avenue, Portland, Maine. The former Suds Up space is one of three ground floor tenant spaces in a three story commercial building, which is connected to a larger multi story office building by an elevated walk-way. **See Figure 1 – Site Location Map.** This assessment was based in part on the findings of the Phase 1 Environmental Site Assessment performed by Sanborn Head in June 2013. The objectives of this Phase 2 Assessment were as follows:

1. Determine if USTs that were reportedly located at the Site have been removed.
2. Determine if soil, soil gas or groundwater beneath the Site has been impacted by chlorinated solvents associated with the historical dry cleaning operations.
3. Determine if indoor air in the first floor of the building is impacted by chlorinated solvents.
4. Assess potential impacts to soil, groundwater, and subslab gas from the former auto repair, gasoline filling station, and USTs.

1.2 Scope of Work

The following summarizes the Scope of Work performed for the Phase 2 Assessment.

- Performed a ground penetrating radar (GPR) survey of the northwestern and western portions of the property where USTs were historically located.
- Completed five (5) direct-push soil borings and field screened the soil samples for volatiles using a PID with a detection limit in parts per million (PPM).
- Selected one (1) soil sample from the five borings and submitted the sample to a State Certified laboratory for testing of volatile organics and petroleum constituent testing.
- Installed one (1) temporary monitoring well in boring B3 and collected a grab groundwater sample for volatile organic testing.
- Collected four (4) soil gas samples and submitted the samples to the laboratory for chlorinated solvent constituent testing.
- Collect one (1) subslab gas sample from beneath the former Suds Up tenant space and submit the sample to the laboratory for petroleum and chlorinated solvent constituent testing.
- Collected two (2) indoor air samples, one from the former Suds Up tenant space and one from Hella Good Taco, which is a tenant space located at the opposite end of the same building. The indoor air samples were submitted to the laboratory for chlorinated solvent testing in air.

Section 2 Conceptual Site Model

The information and data contained in the conceptual model (CSM) are based in part on the Phase 1 Environmental Assessment Report prepared by Sanborn Head Associates, June 2013, and information and data collected during this Phase 2.

2.1 Site Description and Operational History

The Site is bordered on the north by Washington Avenue, on the south and east by Baxter Blvd and I 295, and on the west by Bates Street. The Site is located in a mixed commercial and residential setting. **See Figure 1 – Site Location Map.** The Site and surrounding area are served by public water and sewer, overhead electric and underground natural gas. The commercial building that included Suds Up dry cleaner is a three story building constructed slab on grade and contains three ground floor tenant spaces, one of which was Suds Up (presently vacant). The building was built in 1987. Suds Up recently moved out of the building in September 2015.

The portion of the Site not occupied by buildings consisted of paved parking/access ways with a narrow landscaped strip along Washington Avenue.

According to Sanborn Head's Phase 1 Assessment report, on-Site dry cleaning occurred in the Suds Up tenant space from the late 1980's until approximately 2003 under the name "Portland Dry Cleaning and Laundry". Hazardous wastes reported on manifests included chromium, tetrachloroethylene (PCE), and trichloroethylene (TCE).

The Phase 1 report indicates that prior to the construction of the current building in 1987, a smaller building existed on the property, which was used for auto repairs and sales and also as a filling station in 1950. At least five USTs were reportedly located in the parking area north and west of the present day building. The Phase 1 report also indicates that in 1950, an electroplating shop was located near the eastern side of the present day building.

2.2 Previous Site Investigations

Based on Sanborn Head's Phase 1 ESA report, they did not receive prior environmental site assessments or other environmental reports from MEDEP or the Site owners, nor did they locate copies of previous environmental reports for the Site during completion of the records review.

2.3 Property Reuse Scenarios

The area around the Site and the Site itself is used primarily for residential and light commercial activities. Presently, we are unaware of a specific reuse plan for the property, but based on the current building design and configuration it is presumed to remain commercial retail and office space.

2.4 Regulatory Guidance

Based on what is known about the Site and contaminants of concern, the following regulatory guidance is applicable, depending on future uses of the Site:

- Maine Remedial Action Guidelines (RAGs) for Sites Contaminated with Hazardous Substances, May 8, 2013; Residential, Construction Worker, and Commercial Worker Scenarios for direct-contact with soil and groundwater and indoor air target concentrations.

2.5 Site Geology and Hydrogeology

Topography and Hydrology. Portland West, Maine 7.5-minute quadrangle: The mapped elevation is approximately 30 feet above mean sea level. The topography at the site is depicted as level with a gentle slope to the southeast.

Surficial Geology. Surficial Geology of the Portland West, Quadrangle Maine, Open File 08-16, 2008. The property is located within an area mapped as the Presumpscot Formation consisting of glaciomarine silt, clay and sand deposited on the late glacial sea floor. Observations made during the Phase 2 drilling and groundwater sampling indicate that the water table is approximately 22 ft below ground surface (bgs) at the time of drilling. Overburden material consisted generally of mixed sand, gravel and silt (possibly fill) underlain by marine silt and clay (Presumpscot Formation). The silt and clay unit thinned toward the east and south. Fine to medium sands underly the silt and clay unit to depths of 25 to 30 ft bgs, which is in turn is underlain by dense till. Refusal on till was encountered at B4 (23.5 ft bgs) and B5 (33 ft bgs).

Aquifers.
The Site is located within an area that the Maine Geologic Survey identifies as a surveyed area that lacks significant sand and gravel aquifers.

Public Water Supply Wells and Groundwater Use. No public water supply wells are mapped as being located within 1000 feet of the site according to the Maine Geologic Survey Water Well Database. http://www.maine.gov/dacf/mgs/pubs/digital/well.htm.

Bedrock Geology. The Bedrock Geology of Maine, 1985 (1:500,000). Bedrock is mapped as part of the Elliot Formation, which is described as medium gray quartz-plagioclase-biotite phyllite.

2.6 Contaminants of Concern (COC)

Based on what is known about the history of the Site and the Phase 2 testing results (Section 3.0), the following chemicals of concern (COC) and how these chemicals are believed to have been related to the historical operations are presented below.

Chemicals of Concern	**Relationship to Operations and Site History**
Tetrachloroethylene (PCE), Trichloroethene (TCE), and chromium	Chemicals used in dry cleaning operation from the late 1980's until 2001. Both raw (process) and waste COCs were likely handled and stored at Site.
Trichloroethene (TCE), trans 1,2, dichloroethene, cis 1,2 dichloroethene	Environmental degradation products of PCE.
Petroleum related compounds and fractions (EPH and VPH)	Site of former auto garage, filling station and petroleum USTs

The chlorinated solvent PCE and its breakdown products are more-dense than water and if PCE was released in its non-aqueous phase to the subsurface environment it would sink below the water table through the overburden material until reaching a confining layer. The silt and clay (Presumpscot Formation) at this Site varies in location and thickness and could be considered a partial confining layer in areas where it is uniform and of sufficient thickness, such is the case in the northwest corner of the Site and along the north and west sides of the building. Based on the soil borings, the southeast portion of the Site showed dominantly fine and medium sands with interlayers of silt and clay, which would not serve as an effective barrier for downward migration. Chlorinated solvents dissolved in groundwater would move in the direction of groundwater flow.

Petroleum hydrocarbons are less dense than water and would move in the upper portion of the water table and as with the PCE, silt and clay layers would serve as a barrier for downward migration.

Chlorinated solvents and petroleum compounds can diffuse into the soil gas beneath and around buildings from a non-aqueous (free product) state, from elevated dissolve concentrations in groundwater and from impacted soil above the water table. Contaminant migration in soil gas tends to follow permeable preferential pathways, such as utility conduits, piping penetration, cracks, and separations in building foundations and slabs.

2.7 Potential Areas of Concern (PAOC)

Based on the information from the Phase 1 Environmental Assessment the following potential areas of concern (PAOC) have been identified:

PAOC-1 is the location of the former dry cleaner, which occupied the tenant space at the far west side of the building. Impacts could include historical PCE releases on top of the floor, which could cause indoor air quality impacts, or beneath the floor (subslab) through floor cracks, which could cause impacts to subslab soil, groundwater, and subslab vapor.

PAOC-2 is the location on the north and west sides of the property where in the 1950's a gasoline filling station and auto repair building existed, along with at least five USTs. PAOC-2 is a relatively large and spread-out area of the Site where potential petroleum releases to soil and groundwater could have occurred from the auto repair, gasoline filling station, and former USTs.

PAOC-3 is the electroplating building and operation that was historically located in the eastern portion of the Site, within the existing building footprint. No further information is known about its operations.

2.8 Potential at Risk Receptors/Preferential Pathways

The main potential at risk receptors related to the Site are occupants of the on-Site building and adjacent buildings, due to the potential for impacted soil vapor intrusion, and commercial or construction workers due to direct-contact with potentially impacted soil or groundwater.

Section 3 2015 Investigation Methods and Findings

3.1 Overview

This section provides a description of the investigation methods and results for the Phase 2 Assessment work performed at the former Suds Up Dry Cleaners. Direct-push drilling and field sampling were performed on October 8 and 9, 2015. Drilling and sampling locations are shown on **Figure 2 – Sampling Location Map**

3.2 GPR Survey

On October 7, 2015 Dig Smart of Maine, Inc. performed a ground penetrating radar (GPR) survey of the Site's open parking area to look for subsurface anomalies suggestive of old underground storage tanks (USTs), or tank pits. The GPR survey was overseen by MAI personnel and the area of the GPR survey is shown on Figure 2 (attached). Based on the results of the GPR survey, Dig Smart of Maine indicated that no anomalies were detected within the surveyed area that indicate the presence of a buried tank (UST), and based on their interpretation of the data, no evidence of former UST locations (tank pits) were detected.

3.3 Direct-Push Borings

On October 8, 2015 MAI completed five (5) direct-push borings (B1 – B5) using its Geoprobe 6620DT drilling rig and collected soil samples continuously at 4 to 5 ft intervals for classification and PID field screening. PID screening was performed in general accordance with MEDEP TS004 guidelines using a MiniRae PID with a detection limit in the parts per million (PPM) range. The PID was calibrated prior to use in accordance with the manufacture's guidelines. PID readings are shown on the soil logs, which are provided in **Appendix A - Soil Logs and PID Readings**.

Soil borings were advanced to depths between 20 ft at B2 to 33 ft (equipment refusal) at B5. Overburden material consisted of an upper 2-3 ft thick mixed sand, gravel and silt (possibly fill) underlain by marine silt and clay (Presumpscot Formation). The silt and clay unit thinned toward the east and south. In B1, B2, and B3 the silt and clay layer is approximately 10 ft thick extending from 2-3 ft bgs to 15 ft bgs. The silt and clay unit at B4 was only 4 ft thick (5-9' bgs) and at B5 silt and clay was only encountered in thin < 1 ft thick layers and lenses. Fine to medium sands (more silty towards the east) were encountered to depths of 25 to 30 ft bgs, underlain by dense till. Refusal on till was encountered at B4 (23.5 ft bgs) and B5 (33 ft bgs).

It is likely that a seasonal (spring) perched water table exists on top of the silt and clay unit, as the top of the silt and clay unit was moist. Groundwater in the overburden deposits of sampleable quantity was only encountered in B3 at approximately 22 ft bgs. As indicated above, equipment refusal was reached in both B4 (23.5 ft) and B5 (33 ft) on dense till. Overburden material through the depth of the borings at those two locations was dry.

Field PID screening and observations indicated impacted soil at two of the boring locations. B2 had elevated PID readings (240 – 468 PPM) from approximately 8.5 ft bgs to 12.5 ft bgs. The impacted material had an old petroleum odor. Boring B3 showed some black staining 3.5 – 4.5 ft, and slightly elevated PID readings above background from 3.5 – 8 ft (2.4 – 30.1 PPM). The samples exhibited a slight old petroleum odor. As indicated in the following section, the sample with the highest PID reading was selected for laboratory testing.

3.4 Soil Sampling and Laboratory Analysis

MAI collected one (1) soil sample for laboratory analysis; B2 (8.5-10'), which was located on the west side of the building. The sample was submitted to ConTest Laboratories in East Longmeadow, MA and analyzed for Extractable Petroleum Hydrocarbons (EPH), Volatile Petroleum Hydrocarbons (VPH), and volatile organic compounds (VOCs) using EPA method 8260. The soil testing results are summarized in **Table 1 – Soil Analytical Results.** Laboratory reports are provided in **Appendix C – Laboratory Reports – Soil and Groundwater.**

TABLE 1
Soil Analytical Results
October 8, 2015

Parameter	Units	B2 (8.5-10')	Residential MERAGs	Commercial Worker MERAGs	Construction MERAGs
VOCs 8260					
n-Butylbenzene	mg/kg	1.0	NS	NS	NS
Sec-Butylbenzene	mg/kg	0.87	NS	NS	NS
Ethylbenzene	mg/kg	2.1	1,300	4,300	10,000
Isopropylbenzene	mg/kg	1.5	NS	NS	NS
p-Isopropyltoluene	mg/kg	1.4	NS	NS	NS
Naphthalene	mg/kg	0.99	2,500	10,000	10,000
n-propylbenzene	mg/kg	2.7	NS	NS	NS
1,2,4-Trimethylbenzene	mg/kg	8.6	NS	NS	NS
1,3,5-Trimethybenzene	mg/kg	4.3	NS	NS	NS
m+p Xylene	mg/kg	1.9	10,000	10,000	10,000
EPH	mg/kg	ND	---	---	---
VPH					
Ethylbenzene	mg/kg	0.57	1,300	4,300	10,000
m+p Xylene	mg/kg	0.65	10,000	10,000	10,000
o-Xylene	mg/kg	0.65			
C5-C8 Aliphatics	mg/kg	130	1,400	10,000	10,000
C9-C12 Aliphatics	mg/kg	47	2,700	10,000	10,000
C9-C10 Aromatics	mg/kg	69	750	5,500	10,000

Notes:
1. Only detected VOCs and VPH compounds are shown on Table.
2. **Table 1 -** MEDEP Remedial Action Guidelines for Hazardous Substances, Revised - May 8, 2013.
3. ND = Not Detected
4. NS = No Regulatory Standard
4. mg/kg = milligrams per kilogram

Based on the laboratory test results, EPH compounds and fractions were non-detect. VOCs and VPH compounds and fractions were below the MERAGs direct-contact guidelines for Residential, Commercial Worker, and Construction Worker. The compounds detected are most likely related to the historical petroleum operations (Auto Services and Gasoline Filling Station) and not representative of a release from the former dry cleaner.

3.5 Groundwater Sampling and Laboratory Analysis

MAI installed one (1) temporary monitoring well in direct-push boring B3 (MW1), located at the outside entrance of the former Suds Up dry cleaner. Depth to water in the

temporary well was 22 ft bgs. A 1-inch diameter, 10 ft long, 10 slot PVC screen was installed from 24-29 ft bgs. A "grab" groundwater sample was collected after purging the well using a peristaltic pump at flow rates between 150 – 200 milliliters per minute. The well was purged for approximately 1.5 hours, which allowed for removal of fines and the reduction of turbidity before sample collection. The groundwater sample was submitted to ConTest Laboratories for analysis of VOCs using EPA Method 8260.

Based on the groundwater analytical results, only one VOC compound was detected in the sample. PCE was detected at a concentration of 12 ug/l, which is below MERAGs for groundwater. The PCE MERAG for Residential Exposure to groundwater is 40 ug/l, which is the same as the CDC Maine Exposure Guideline (MEGs) for drinking water. The PCE MERAG for Construction Worker Exposure Pathway is 880 ug/l. Groundwater testing results are provided in **Appendix C – Laboratory Reports – Soil and Groundwater.**

3.6 Subslab Gas and Soil Gas Sampling and Analysis

MAI personnel collected one (1) subslab gas sample (SS1) and four (4) soil gas samples (SG1 through SG4). The subslab gas sample was collected from beneath the buildings floor slab, inside the former Suds Up tenant space. The soil gas samples were collected around the north, west and south side of the building (See Figure 2 – Site Map).

The subslab and soil gas samples were collected by drilling a ¼ inch diameter hole through the slab and asphalt pavement and inserting Teflon lined poly tubing through the hole to a few inches below the bottom of the slab/pavement. The annulus between the drill hole and tubing was sealed with hydrated bentonite clay to prevent short-circuiting of air from above.

Following installation of each subslab and soil gas sampling point, the points were purged using a multi-gas meter (O^2 and CO^2) and PID. Parameter measurements were made of the ambient air and from the gas points. The points were purged until parameter stabilization was achieved.

After recording the field-measured parameters and purging, gas samples were collected in Suma canisters provided by ConTest Laboratories. The Suma canisters and regulators were calibrated for an approximate 15 minute draw. Field measured parameters are provided in **Attachment B – Field Sampling Data Records**.

The subslab (SS1) and soil gas samples (SG1 – SG4) were submitted to ConTest for analysis of TO-15 VOCs – chlorinated compounds only. SS1 was additionally tested for Air Petroleum Hydrocarbons (APH). The results from the gas testing are summarized in **Table 2 – Analytical Results – Subslab and Soil Gas.** Laboratory reports are provided in **Appendix D – Laboratory Reports – Sub Slab Gas, Soil Gas, and Indoor Air.**

TABLE 2
Analytical Results – Subslab and Soil Gas
October 9, 2015

Analytes	**SS1**	**SG1**	**SG2**	**SG3**	**SG4**	**MERAGs [1]**	
						SGTs Residential	**SGTs Commercial**
Units	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3	ug/m^3
TO-15 VOCs (Chlorinated Only)							
Bromodichloromethane	0.7	ND	ND	ND	ND	NS	NS
Chloroform	1.1	0.77	ND	ND	0.71	11	53
Chloromethane	0.45	ND	ND	ND	ND	940	3,900
Freon 12*	25	2.2	270	21	9.0	2,100	8,800
1,2-dichloroethane	ND	ND	1.9	ND	ND	9.4	47
cis-1,2-Dichloroethylene	2.3	ND	ND	ND	ND	630	2,600
Trans-1,2,-Dichloroethylene	0.61	ND	ND	ND	ND	630	2,600
Methylene Chloride	ND	ND	5.7	ND	ND	6,300	26,000
Tetrachloroethylene (PCE)	**4,100**	4.2	2.6	19	32	420	1,800
Trichloroethylene (TCE)	69	ND	ND	0.61	ND	21	88
Freon 11**	10	ND	5.3	ND	ND	7,300	31,000
Freon 113*	8.3	ND	ND	ND	ND	NS	NS
APH Compounds							
Benzene	1.4	NA	NA	NA	NA	31	160
Toluene	4.1	NA	NA	NA	NA	52,000	220,000
m&p-Xylene	3.3	NA	NA	NA	NA	1,000	4,400
o-Xylene	1.7	NA	NA	NA	NA		
C5-C8 Aliphatics	2,100	NA	NA	NA	NA	6,300	26,000
C9-C10 Aromatics	ND	NA	NA	NA	NA	520	2,200
C9-C12 Aliphatics	4,600	NA	NA	NA	NA	2,100	8,800

Notes:
[1] Maine Remedial Action Guidelines (MERAGs) for the Indoor Air Exposure Pathway, Revised - May 8, 2013. Soil Gas Target (SGT) = MEDEP Indoor Air Target for Residential and Commercial Scenarios divided by attenuation factor (0.10).
ug/m^3 = micrograms per cubic meter
ND = Not detected above the laboratory reporting limit
NA = Not Analyzed
NS = No Standard
* Freon 12 = Dichlorodifluoromethane
** Freon 11 = Trichlorofluoromethane
***Freon 113 = 1.1.2-Trichloro-1,2,2-trifluoroethane

Based on the gas analytical results, the subslab sample (SS1) from beneath the former Suds Up tenant space showed detections of chlorinated solvent constituents including common dry cleaning chemicals PCE and TCE, along with petroleum constituents. The petroleum constituents are likely due to historical releases of petroleum products from the former on-Site USTs and gasoline filling station. Only PCE in SS1 exceeded the MERAGs SGTs for the Commercial Scenario. Petroleum related C9-C12 Aliphatics exceeded the Residential scenario in SS1, but was below the Commercial scenario.

With regard to the four soil gas samples (SGs), PCE was detected at concentrations ranging from 2.6 ug/m^3 (SG2) to 32 ug/m^3 (SG4), which is below the PCE SGTs for both the Residential and Commercial scenarios. Other low level chlorinated volatiles were detected in the soil gas samples, but the concentrations were all below both the Residential and Commercial SGTs.

3.7 Indoor Air Sampling and Analysis

Two (2) indoor air samples (IA1 and IA2) were collected from the interior of the building. IA1 was collected from the former Suds Up tenant space and IA2 was collected from the tentant space on the far south side of the building inside an operating restaurant ("Hell of Good Tacos") (See Figure 2 – Sampling Location Map). The IA's were collected in a 6 liter Suma canister with an approximate 24 hour draw time. The samples were submitted to ConTest Laboratories for analysis of VOCs – chlorinated compounds only using method TO-15. Indoor air results are summarized in **Table 3 – Analytical Results – Indoor Air**. Laboratory reports are presented in **Appendix D – Laboratory Reports – Subslab Gas, Soil Gas, and Indoor Air**.

TABLE 3
Analytical Results – Indoor Air
October 8 – 9, 2015

Analyte	**IA1**	**IA2**	**MERAGs Residential IATs [1]**	**MERAGs Commercial IATs [1]**
	(ug/m^3)	(ug/m^3)	(ug/m^3)	(ug/m^3)
TO-15 Chlorinated Only				
Carbon Tetrachloride	0.29	0.41	4.1	20
Chloroform	ND	0.98	1.1	5.3
Chloromethane	0.60	0.81	94	390
Freon 12*	1.4	1.6	210	880
Tetrachloroethylene	0.27	0.71	42	180
Trichloroethylene	ND	ND	2.1	8.8
Freon 11*	1.1	2.1	730	3,100

Only those compounds detected have been included in the Table
[1] Table 2- Indoor Air Residential and Commercial Scenarios -Maine Remedial Action Guidelines (MERAGs) for the Indoor Air Exposure Pathway, Revised - May 8, 2013.
ug/m^3 = micrograms per cubic meter
Freon 12* = Dichlorodifluoromethane
Freon 11**= Trichlorofluoromethane

Based on the results of the indoor air tests, chlorinated VOCs were detected at levels below MERAG Indoor Air Targets (IATs).

Section 4 Conclusions

The results from this investigation have led to the following conclusions:

1. Dig Smart of Maine indicated that based on the results of the GPR survey, no anomalies were detected within the surveyed area that indicated the presence of a buried tank (UST), and based on their interpretation of the data, no evidence of former UST locations (tank pits) were detected.

2. Field PID screening and observations indicated impacted soil at two of the boring locations. B2 had elevated PID readings (240 – 468 PPM) from approximately 8.5 ft bgs to 12.5 ft bgs. The impacted material had an old petroleum odor. Boring B3 showed some black staining 3.5 – 4.5 ft, and slightly elevated PID readings above background from 3.5 – 8 ft (2.4 – 30.1 PPM). The samples exhibited a slight old petroleum odor.

3. Soil sample B2 (8.5-10') was selected for laboratory analysis. Based on the laboratory test results, EPH compounds and fractions were non-detect and detected VOCs and VPH compounds and fractions were below the MERAGs direct-contact guidelines for Residential, Commercial Worker, and Construction Worker scenarios. The compounds detected are most likely related to the historical petroleum operations (Auto Services and Gasoline Filling Station) and not representative of a release from the former dry cleaner.

4. One groundwater sample (MW1) was collected on the north side of the former Suds Up tenant space and submitted for VOC testing by EPA Method 8260. Based on the groundwater analytical results, only one VOC compound was detected in the sample. PCE was detected at a concentration of 12 ug/l, which is below the CDC Maine Exposure Guideline (MEGs) for drinking water of 40 ug/l. The low concentration of PCE in groundwater at MW1 is inconclusive as it relates to whether or not a release of PCE occurred from the former dry cleaning operations. PCE and other chlorinated solvents were also used for parts and equipment cleaning in auto repair garages and electroplating.

5. The subslab (SS1) gas sample collected from beneath the interior space of the former Suds Up dry cleaner was analyzed for both chlorinated VOCs (TO-15) and petroleum related VOCs (APH). Dry cleaning chemical PCE was detected at a concentration of 4,100 ug/m^3, which is above the Commercial SGT of 1,800 ug/m^3. The corresponding indoor air sample (IA1) collected inside the former Suds Up tenant space showed a low PCE concentration (0.27 ug/m^3), which is below the Commercial IAT of 180 ug/m^3. This indicates that although the subslab gas is impacted with PCE at an elevated level above the MERAGs SGTs, a complete pathway does not exist at this time causing elevated PCE concentrations in the indoor air at IA1. No other detected VOCs compounds in

the subslab gas (SS1), soil gas samples (SG1-SG4) or the indoor air samples (IA1 and IA2) exceeded the MERAGs standards for Commercial Scenario.

Section 5 Recommendations

Based on the findings and conclusions of this investigation, MAI recommends the following:

1. Collect a subslab gas sample from beneath the floor slabs of the other two ground floor building tenant spaces and analyze the samples for VOCs chlorinated compounds only by Method TO-15. Due to the elevated concentration of PCE in SS1 and the uncertainty of the source location of PCE in the subslab gas (solvents are also commonly used in historical auto repair/electroplating), and possible subslab utility conduits connecting beneath the tenant spaces, we recommend additional subslab gas samples beneath the other two ground floor tenant spaces.
2. Depending on the results of the subslab gas sampling beneath the other two ground floor tenant spaces, we recommend that a passive or active subslab depressurization system be installed beneath the former Suds Up dry cleaning space, or possibly extending beyond the Suds Up space.

Section 6 Data Gap Analysis

MAI did not identify data gaps as part of the Phase 2 Assessment that would change the conclusions or recommendations.

FIGURES

FIGURE 1
SITE LOCATION MAP

Former Suds Up
500 Washington Ave
Portland, Maine

SOURCE: U.S.G.S. 7.5 Minute Topographic Quadrangle of, Portland West and Portland East, Maine (MAPTECH)

SCALE: 1"=2000'

DATE: 11/11/15

DWG: A-5475-2

MAI ENVIRONMENTAL
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Soil Boring/Temp Well
Sub Slab Soil Gas Sample
Soil Gas Sample
Soil Boring
Indoor Air Sample
Historic Site Building

NOTES: Base map obtained from Google Earth (2014). Site Features have been approximated

FIGURE 2
Sampling Location Map

SCALE: 1" = ±40'
DATE: 10/30/15
DWG: A-5475-2

Former Suds Up Cleaners
500 Washington Ave
Portland, ME

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1034 BROADWAY ▼ SOUTH PORTLAND, ME 04106 ▼ PHONE: (207) 767-3663

APPENDIX A

Soil Logs and PID Readings

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SOIL SAMPLING DATA RECORD

Date: 10-8-2015

PROJECT: DCI Sud's - Washington Ave Portland, ME
Boring Designation: B1

Weather: 60 deg. F - Partly Sunny
Soil Warming Method: N/A

Sample Intervals and Soil Description			PID Readings (PPM) Thermo 580B			Oil n'Soil FP Test
Sample I.D.	Sample Depth (ft)	Sample Description	Reading 1	Reading 2	Reading 3	Result (S-P/SP-N)
S1	0-2	Brn f to m sand, some gravel, little silt	<1			
	2-5	Brn silt & clay (Presump. Formation)				
S2	5-10	Same				
S3	10-12	Same				
	12-15	Brn Soft silt & clay				
S4	15-16	Brn fine sand, some silt				
	16-19.5	Brn silt & clay				
	19.5-20	Brn fine sand				
S5	20-23	Brn fn sand and silt				
	23-25	Brn f to m sand, little silt				

Geologist/PID Operator: PDP/JSM

All Samples Handled, Collected and Analyzed in accordance with TS004

Clean-Up Scenario Utilized - Soil Volume based on Thermo 580B PID
Leaching to Ground Water/Notification - 200 gm - Resident/Park User - 20 gm - Outdoor Commercial Worker/Excavation - Construction Worker - 5 gm

Soil Saturation Test (key)		
Saturated (S)	Positive (P)/Slight Positive	Negative (N)
Red dye observed in soil matrix	Bead is red/light pink - no dye observed in matrix	No dye coloration

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SOIL SAMPLING DATA RECORD

Date: 10-8-2015

PROJECT: DCI Sud's - Washington Ave Portland, ME

Weather: 60 deg. F - Partly Sunny

Boring Designation: B2

Soil Warming Method: N/A

Sample Intervals and Soil Description			PID Readings (PPM) Thermo 580B			Oil in Soil FP Test
Sample I.D.	Sample Depth (ft)	Sample Description	Reading 1	Reading 2	Reading 3	Result (S-P/SP-N)
S1	0-2	Brn f to c sand, some gravel, little silt	<1			
	2-3	Mixed silt/clay and gravel, Blk staining	1.2			
	3-5	Brn silt & Clay	1.6			
S2	5-7	Brn, stiff uniform Silt & Clay	7.2			
	7-8.5	same	21.2			
	8.5-10	Same (Petrol Odor) - Lab Sample	468			
S3	10-12.5	same	240			
	12.5-15	same	8.7			
S4	15-17.5	Soft, Brn silt, some fine sand	1.6			
	17.5-20	Soft Brn silt and sand	2.1			

Geologist/PID Operator: PDP/JSM

All Samples Handled, Collected and Analyzed in accordance with TS004

Clean-Up Scenario Utilized - Soil Volume based on Thermo 580B PID
Leaching to Ground Water/Notification - 200 gm - Resident/Park User - 20 gm - Outdoor Commercial Worker/Excavation - Construction Worker - 5 gm

Soil Saturation Test (key)		
Saturated (S)	Positive (P)/Slight Positive	Negative (N)
Red dye observed in soil matrix	Bead is red/light pink - no dye observed in matrix	No dye coloration

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SOIL SAMPLING DATA RECORD

Date: 10-8-2015

PROJECT: DCI Sud's - Washington Ave Portland, ME
Boring Designation: B3

Weather: 60 deg. F - Partly Sunny
Soil Warming Method: N/A

Sample Intervals and Soil Description			PID Readings (PPM) Thermo 580B			Oil In Spot FP Test
Sample I.D.	Sample Depth (ft)	Sample Description	Reading 1	Reading 2	Reading 3	Result (S-P/SP-N)
S1	0-3.5	Brn f to c sand, some gravel, little silt.	<1			
	3.5-4.5	Brn f to m sand, (Blk Staing)	2.4			
	4.5-5	Gray silt & clay	1.9			
S2	5-6	Brn silt & clay (	12.9			
	6-8	Same (Slt Petrol odor)	30.1			
	8-10	Same	1.5			
S3	10-15	Same	1.8			
S4	15-16	Brn fine sand, some silt	<1			
	16-19	Brn silt & clay	<1			
	19-20	Brn fn sand, some silt	<1			
S5	20-22.5	Brn fn sand & silt, soft poor recovery	<1			
	22.5-25	Brn Med Sand (Wet)	<1			
S6	25-30	Brn med sand, little coarse sand (iron staining)	<1			
S7	30-34	Same	<1			
	34-35	Dense Brn til	<1			
		Set temp well - Screened 24-29 ft.				

Geologist/PID Operator: PDP/JSM

All Samples Handled, Collected and Analyzed in accordance with TS004

Clean-Up Scenario Utilized - Soil Volume based on Thermo 580B PID
Leaching to Ground Water/Notification - 200 gm - Resident/Park User - 20 gm - Outdoor Commercial Worker/Excavation - Construction Worker - 5 gm

Soil Saturation Test (key)		
Saturated (S)	Positive (P)/Slight Positive	Negative (N)
Red dye observed in soil matrix	Bead is red/light pink - no dye observed in matrix	No dye coloration

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SOIL SAMPLING DATA RECORD

Date: 10-8-2015

PROJECT: DCI Sud's - Washington Ave Portland, ME

Weather: 60 deg. F - Partly Sunny

Boring Designation: B4

Soil Warming Method: N/A

Sample Intervals and Soil Description			PID Readings (PPM) Thermo 580B			Oil in Soil SP Test
Sample I.D.	Sample Depth (ft)	Sample Description	Reading 1	Reading 2	Reading 3	Result (S-P/SP-N)
S1	0-5	Brn fn sand & silt	<1			
S2	5-9	Brn silt & clay	<1			
	9-10	Brn/org f to m sand	1.5			
S3	10-15	Brn/org med sand, little coarse sand (moist)	<1			
S4	15-20	Same	<1			
S5	20-23.5	Same w/ pebbles, cobbles	<1			
	23-23.5	Gy clay till				
			<1			
		Ref. @ 23.5'				

Geologist/PID Operator: PDP/JSM

All Samples Handled, Collected and Analyzed in accordance with TS004

Clean-Up Scenario Utilized - Soil Volume based on Thermo 580B PID
Leaching to Ground Water/Notification - 200 gm - Resident/Park User - 20 gm - Outdoor Commercial Worker/Excavation - Construction Worker - 5 gm

Soil Saturation Test (key)		
Saturated (S)	Positive (P)/Slight Positive	Negative (N)
Red dye observed in soil matrix	Bead is red/light pink - no dye observed in matrix	No dye coloration

1034 Broadway ▼ South Portland, ME 04106 ▼ Phone: (207) 767-3663 ▼ Fax: (207) 767-7110 ▼ Web:maienvironmental.com

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SOIL SAMPLING DATA RECORD

Date: 10-8-2015

PROJECT: DCI Sud's - Washington Ave Portland, ME

Boring Designation: B5

Weather: 60 deg. F - Partly Sunny

Soil Warming Method: N/A

Sample Intervals and Soil Description			PID Readings (PPM) Thermo 580B			Oily Soil FP Test
Sample I.D.	Sample Depth (ft)	Sample Description	Reading 1	Reading 2	Reading 3	Result (S-P/SP-N)
S1	0-2.5	Brn fn sand al silt (staining)	<1			
	2.5-3.5	Brn fn sand and silt				
	3.5-5	Brn f to m sand, little silt				
S2	5-7.5	Same w/ silt al clay layers (2")				
	7.5-10	Same				
S3	10-12.5	Brn f to m sand				
	12.5-15	Same				
S4	15-20	Same				
S5	20-25	Same				
S6	25-28	Brn f to C sand, little silt				
	28-30	Same				
S7	30-31	Same				
	31-33	Gry/Brn dense till				
		Ref. @ 33 ft				

Geologist/PID Operator: PDP/JSM

All Samples Handled, Collected and Analyzed in accordance with TS004

Clean-Up Scenario Utilized - Soil Volume based on Thermo 580B PID
Leaching to Ground Water/Notification - 200 gm - Resident/Park User - 20 gm - Outdoor Commercial Worker/Excavation - Construction Worker - 5 gm

Soil Saturation Test (key)		
Saturated (S)	Positive (P)/Slight Positive	Negative (N)
Red dye observed in soil matrix	Bead is red/light pink - no dye observed in matrix	No dye coloration

APPENDIX B

Field Sampling Data Records

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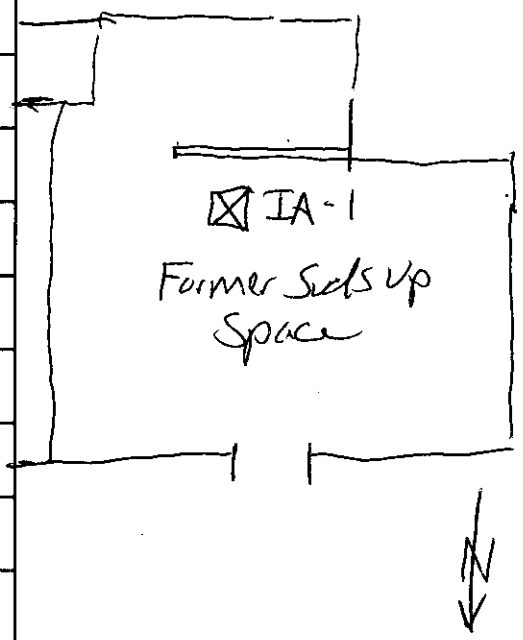
Indoor(Ambient) Air Sampling Data Record

PROJECT: DCI - Sud's Washington Ave
LOCATION: Portland, Maine
DATE: 10/8/15

SAMPLE ID: IA-1
SAMPLER: Prescott

Receptor Sampling Location	Former Suds Up Space
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Type:	(Subslab) (Indoor Air)
Foundation Floor Type	(Dirt) (Concrete)
Foundation Wall Type	(Concrete) (Block) (Stone)
Sump Hole	(Yes) (No)
Penetrations in Floor	Floor Drains (Sewer) (Water) (Gas)
Penetrations in Wall	(Sewer) (Water) (Gas) (Electric)
Flow rate: (ml/min)	
Cannister I.D.:	2025
Controller I.D.:	3055
Suspected COCs:	(Petroleum) (Solvents)
Sampling Start Time:	9:45 AM 10/8/15
Initial Cannister Vac: (" H_2O)	+30
Sampling End Time:	9:05 AM 10/9/15
Final Cannister Vac: (" H_2O)	6

Sample Location Sketch



Notes:

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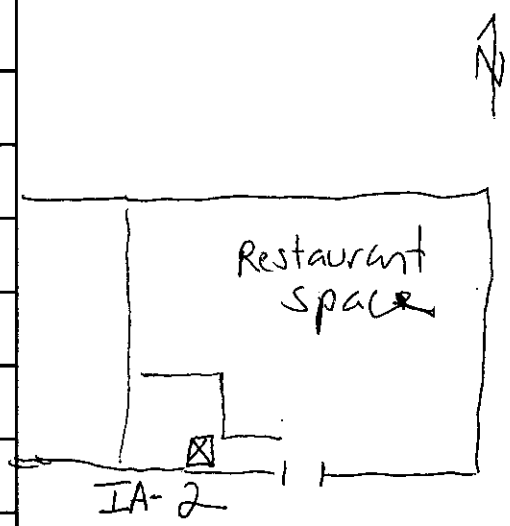
Indoor(Ambient) Air Sampling Data Record

PROJECT: DCI - Sud's Washington Ave
LOCATION: Portland, Maine
DATE: 10/8/15

SAMPLE ID: IA-2
SAMPLER: Prescott

Receptor Sampling Location	Restaurant Space
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Type:	(Subslab) (Indoor Air)
Foundation Floor Type	(Dirt) (Concrete)
Foundation Wall Type	(Concrete) (Block) (Stone)
Sump Hole	(Yes) (No)
Penetrations in Floor	(Sewer) (Water) (Gas)
Penetrations in Wall	(Sewer) (Water) (Gas) (Electric)
Flow rate: (ml/min)	
Cannister I.D.:	2212
Controller I.D.:	3056
Suspected COCs:	(Petroleum) (Solvents)
Sampling Start Time:	9:50AM 10/8/15
Initial Cannister Vac: (" H_2O)	+30
Sampling End Time:	9:45AM 10/9/15
Final Cannister Vac: (" H_2O)	9

Sample Location Sketch



Notes:

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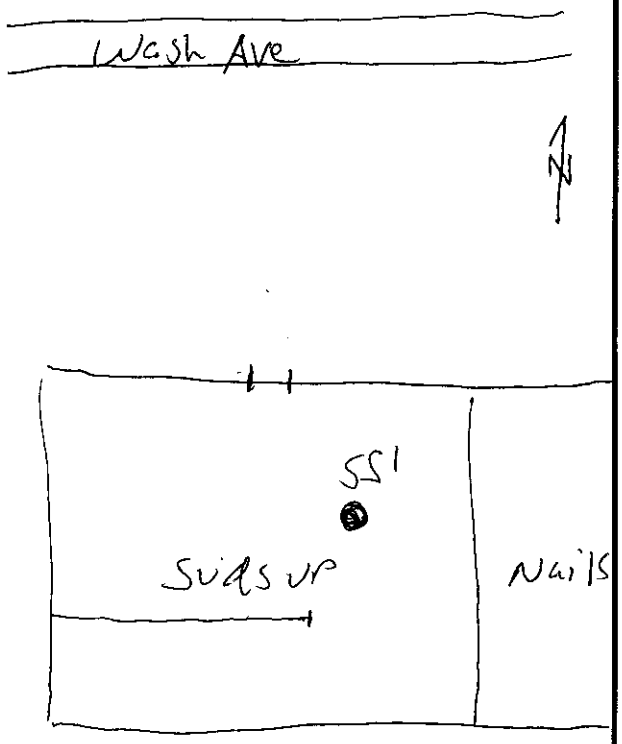
Soil Gas Sampling Data Record

PROJECT: DCI Sud's - Washington Ave
LOCATION: Portland, Maine
DATE: 10/9/15

SAMPLE ID: SS-1
SAMPLER: Prescott

Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Collection Device:	(Summa Cannister) (Tedlar Bag) (Niosh Tube)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth: (ft bgs)	Subslab
Depth to Water: (ft bgs)	~22'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	1151
Controller I.D.:	4079
Flow rate: (ml/min)	
O_2 Ambient % ~~(ppm)~~	20.9%
CO_2 Ambient % ~~(ppm)~~	0.0%
Pre Sample O_2: % ~~(ppm)~~	17.5%
Pre Sample CO_2: % ~~(ppm)~~	1.8%
Pre Sample PID: (ppm)	0.3
Pre Sample CH_4: (% LEL)	
Sampling Start Time:	10:30
Initial Cannister Vacuum: (" H_2O)	30
Sampling End Time:	10:48
Final Cannister Vaccum: (" H_2O)	4
Post Sample O_2: (ppm)	—
Post Sample CO_2: (ppm)	—
Post Sample CH_4: (% LEL)	—

Sample Location Sketch



Notes:

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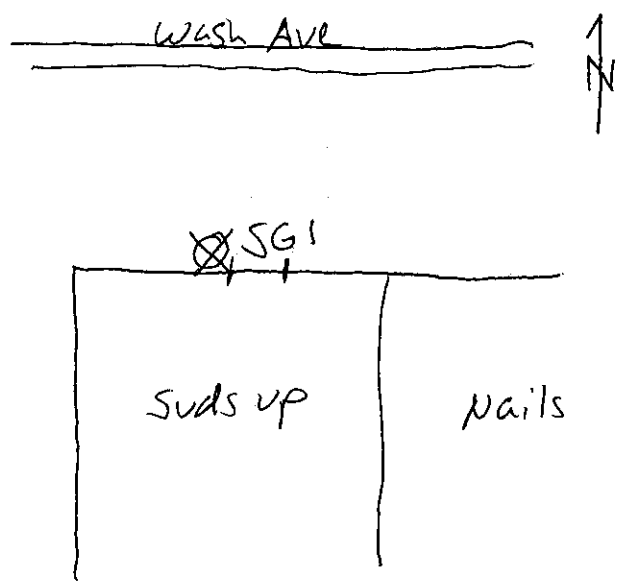
Soil Gas Sampling Data Record

PROJECT: DCI Sud's - Washington Ave
LOCATION: Portland, Maine
DATE: 10/9/15

SAMPLE ID: SG-1
SAMPLER: Prescott

Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth: (ft bgs)	2'
Depth to Water: (ft bgs)	~ 22'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	2078
Controller I.D.:	4296
Flow rate: (ml/min)	
O_2 Ambient % ~~(ppm)~~	20.9%
CO_2 Ambient % ~~(ppm)~~	0.0%
Pre Sample O_2: %~~(ppm)~~	20.8%
Pre Sample CO_2: %~~(ppm)~~	0.2%
Pre Sample PID: (ppm)	3.6
Pre Sample CH_4: (% LEL)	
Sampling Start Time:	9:05
Initial Cannister Vacuum: (" H_2O)	30
Sampling End Time:	9:22
Final Cannister Vaccum: (" H_2O)	2.5
Post Sample O_2: %~~(ppm)~~	20.8%
Post Sample CO_2: % ~~(ppm)~~	0.2%
Post Sample ~~CH4: (% LEL)~~	—

Sample Location Sketch



Notes:

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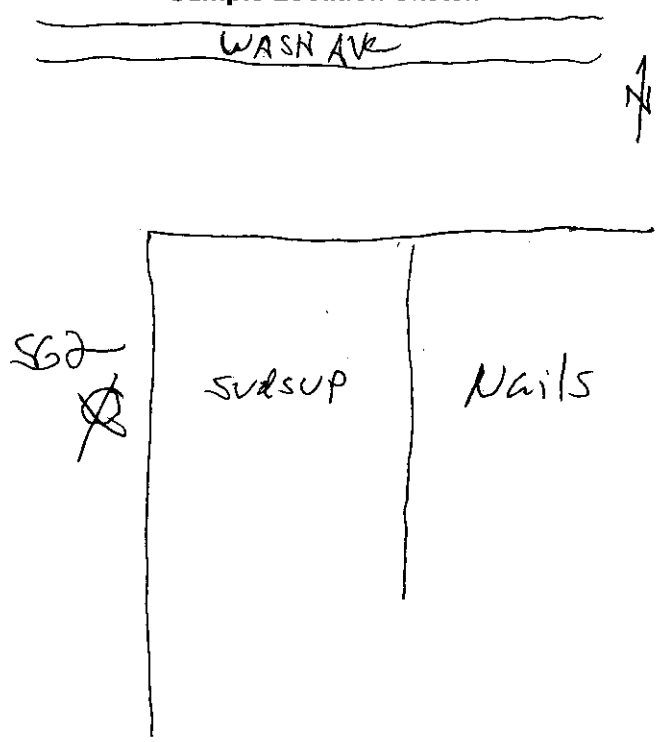
Soil Gas Sampling Data Record

PROJECT: DCI Sud's - Washington Ave
LOCATION: Portland, Maine
DATE: 10/9/15

SAMPLE ID: SG-2
SAMPLER: Prescott

Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth: (ft bgs)	2'
Depth to Water: (ft bgs)	~ 22'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	2052
Controller I.D.:	4297
Flow rate: (ml/min)	
O_2 Ambient % (~~ppm~~)	20.9%
CO_2 Ambient % (~~ppm~~)	0.0%
Pre Sample O_2: % (~~ppm~~)	20.3%
Pre Sample CO_2: % (~~ppm~~)	0.2%
Pre Sample PID: (ppm)	5.4
Pre Sample CH_4: (% LEL)	
Sampling Start Time:	9:12
Initial Cannister Vacuum: (" H_2O)	29
Sampling End Time:	9:27
Final Cannister Vaccum: (" H_2O)	3
Post Sample O_2: % (~~ppm~~)	20.2%
Post Sample CO_2: % (~~ppm~~)	0.2%
Post Sample CH_4: (% LEL)	—

Sample Location Sketch



Notes:

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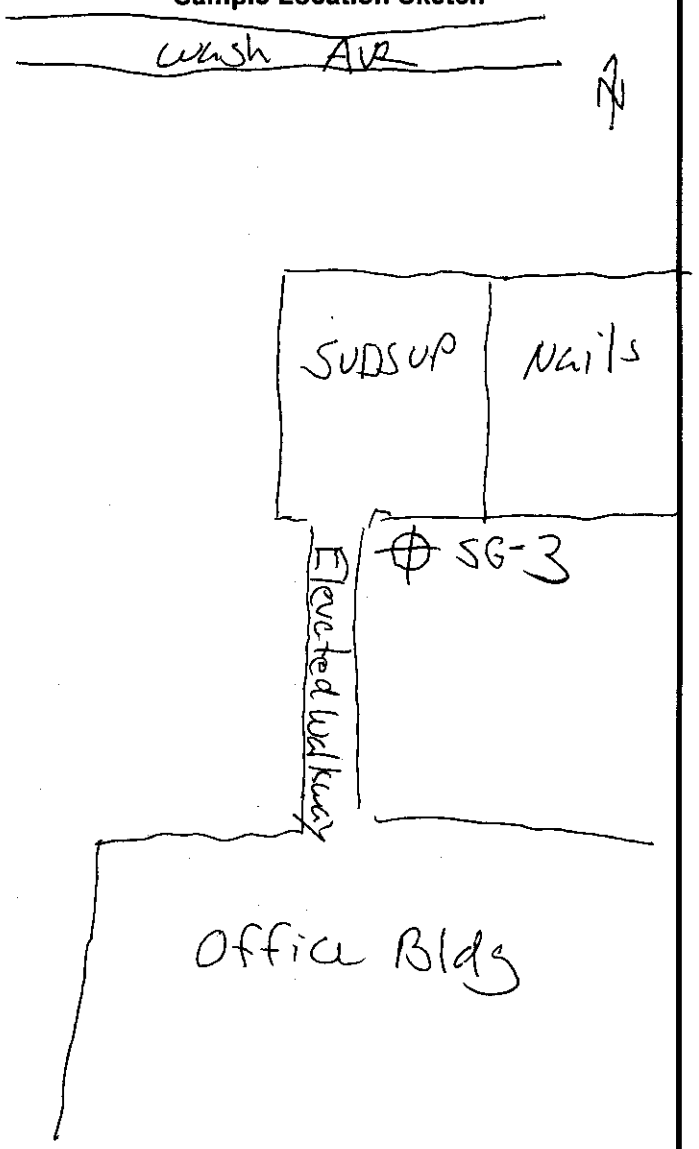
Soil Gas Sampling Data Record

PROJECT: DCI Sud's - Washington Ave
LOCATION: Portland, Maine
DATE: 10/9/15

SAMPLE ID: SG-3
SAMPLER: Prescott

Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Penetration Location:	(Asphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth: (ft bgs)	2'
Depth to Water: (ft bgs)	~22'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	2087
Controller I.D.:	4086
Flow rate: (ml/min)	
O_2 Ambient % ~~(ppm)~~	20.9 %
CO_2 Ambient % ~~(ppm)~~	0.0%
Pre Sample O_2: % ~~(ppm)~~	19.4%
Pre Sample CO_2: % ~~(ppm)~~	1.2%
Pre Sample PID: (ppm)	3.7
Pre Sample CH_4: (% LEL)	
Sampling Start Time:	9:35
Initial Cannister Vacuum: (" H_2O)	29
Sampling End Time:	9:54
Final Cannister Vaccum: (" H_2O)	6
Post Sample O_2: % ~~(ppm)~~	19.2%
Post Sample CO_2: % ~~(ppm)~~	1.2%
Post Sample CH_4: (% LEL)	—

Sample Location Sketch



Notes:

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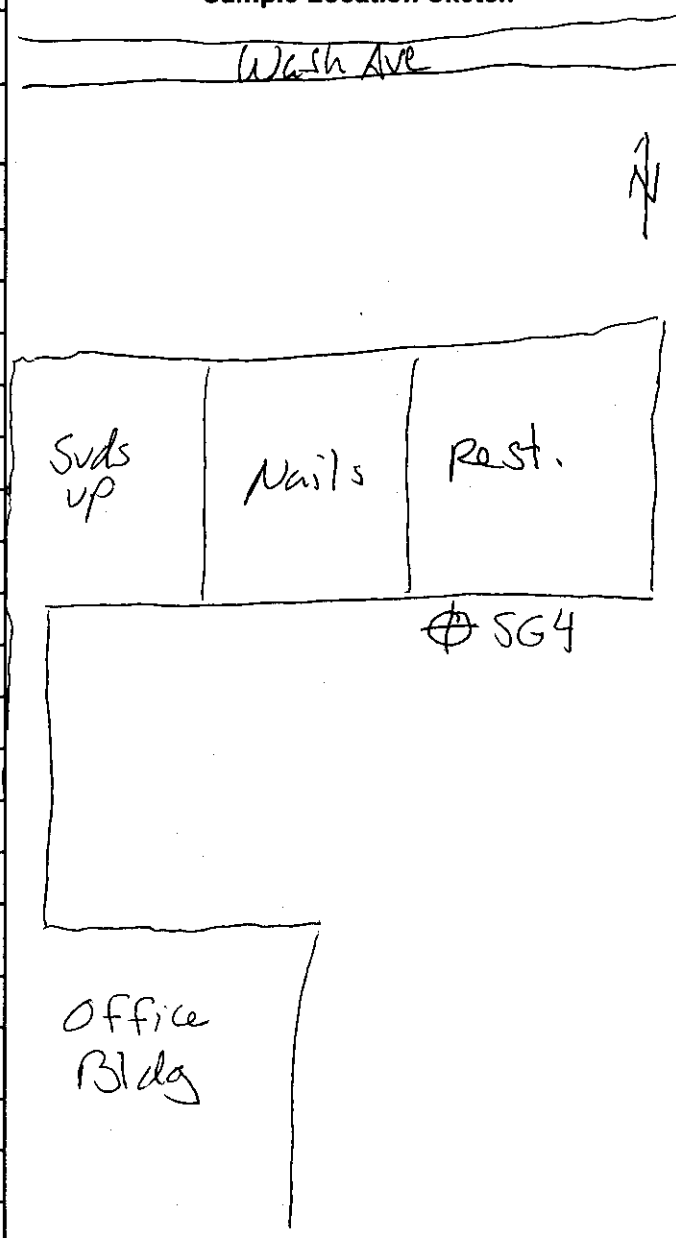
Soil Gas Sampling Data Record

PROJECT: DCI Sud's - Washington Ave
LOCATION: Portland, Maine
DATE: 10/9/15

SAMPLE ID: SG-4
SAMPLER: Prescott

Sampling Purpose	(Source) (Utility) (Mitigation) (Receptor) (Other)
Collection Device:	(Suma Cannister) (Tedlar Bag) (Niosh Tube)
Sample Penetration Location:	(Ashphalt) (Concrete) (Soil)
Soil Type:	(Fill) (Till) (Sand & Gravel) (Glacial Marine)
Sample Depth: (ft bgs)	2'
Depth to Water: (ft bgs)	~22'
Suspected COCs:	(Petroleum) (Solvents)
Cannister I.D.:	1645
Controller I.D.:	4080
Flow rate: (ml/min)	
O_2 Ambient ~~%~~ (~~ppm~~)	20.9%
CO_2 Ambient ~~%~~ (~~ppm~~)	0.0%
Pre Sample O_2: ~~%~~ (~~ppm~~)	17.9%
Pre Sample CO_2: ~~%~~ (~~ppm~~)	1.6%
Pre Sample PID: (ppm)	4.4
Pre Sample CH_4: (% LEL)	
Sampling Start Time:	9:40
Initial Cannister Vacuum: (" H_2O)	29
Sampling End Time:	9:59
Final Cannister Vaccum: (" H_2O)	5
Post Sample O_2: ~~%~~ (~~ppm~~)	18.0%
Post Sample CO_2: ~~%~~ (~~ppm~~)	1.6%
Post Sample CH_4: (% LEL)	—

Sample Location Sketch



Notes:

APPENDIX C

Laboratory Reports – Soil and Groundwater

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 21, 2015

John Marchewka
MAI Environmental
1034 Broadway
South Portland, ME 04106

Project Location: DCI Suds Up, Portland
Client Job Number:
Project Number: 1079
Laboratory Work Order Number: 15J0496

Enclosed are results of analyses for samples received by the laboratory on October 10, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MAI Environmental
1034 Broadway
South Portland, ME 04106
ATTN: John Marchewka

REPORT DATE: 10/21/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1079

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15J0496

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: DCI Suds Up, Portland

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B2 (8.5-10)	15J0496-01	Soil		MADEP-EPH-04-1.1	
				MADEP-VPH-04-1.1	
				SM 2540G	
				SW-846 8260C	
MW-1	15J0496-02	Ground Water		SW-846 8260C	

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MADEP-VPH-04-1.1

Qualifications:

O-01

Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.

Analyte & Samples(s) Qualified:

15J0496-01[B2 (8.5-10)]

RL-05

Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.

Analyte & Samples(s) Qualified:

Naphthalene

15J0496-01[B2 (8.5-10)]

SW-846 8260C

Qualifications:

L-02

Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.

Analyte & Samples(s) Qualified:

Chloroethane

B132961-BS1, B132961-BSD1, B133111-BS1, B133111-BSD1

L-04

Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.

Analyte & Samples(s) Qualified:

Chloromethane

15J0496-01[B2 (8.5-10)], B132961-BLK1, B132961-BS1, B132961-BSD1

Dichlorodifluoromethane (Freon 12

15J0496-01[B2 (8.5-10)], B132961-BLK1, B132961-BS1, B132961-BSD1

L-07

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 12

B133111-BS1

trans-1,4-Dichloro-2-butene

B132961-BS1

L-07A

Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.

Analyte & Samples(s) Qualified:

Bromomethane

B132961-BS1

R-05

Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.

Analyte & Samples(s) Qualified:

Bromomethane

15J0496-01[B2 (8.5-10)], B132961-BLK1, B132961-BS1, B132961-BSD1

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:

Dichlorodifluoromethane (Freon 12

15J0496-01[B2 (8.5-10)], B132961-BLK1, B132961-BS1, B132961-BSD1

trans-1,4-Dichloro-2-butene

15J0496-01[B2 (8.5-10)], 15J0496-02[MW-1], B132961-BLK1, B132961-BS1, B132961-BSD1, B133111-BLK1, B133111-BS1, B133111-BSD1

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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:

Naphthalene

15J0496-02[MW-1], B133111-BS1, B133111-BSD1

V-20

Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

1,4-Dioxane

B133111-BS1, B133111-BSD1

Bromomethane

B133111-BS1, B133111-BSD1

Carbon Disulfide

B132961-BS1, B132961-BSD1, B133111-BS1, B133111-BSD1

Chloroethane

B132961-BS1, B132961-BSD1, B133111-BS1, B133111-BSD1

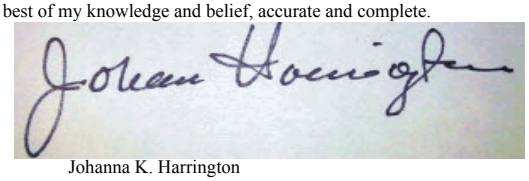
MADEP-EPH-04-1.1

SPE cartridge contamination with non-petroleum compounds, if present, is verified by GC/MS in each method blank per extraction batch and excluded from C 11-C22 aromatic range fraction in all samples in the batch. No significant modifications were made to the method.

MADEP-VPH-04-1.1

No significant modifications were made to the method. All VPH samples were received preserved properly in methanol with a soil/methanol ratio of 1:1 +/- 25% completely covered by methanol in the proper containers specified on the chain-of-custody form unless specified in this narrative.

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

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: B2 (8.5-10)
Sampled: 10/8/2015 16:45
Sample ID: 15J0496-01
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Acrylonitrile	ND	1.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Benzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Bromobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Bromochloromethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Bromodichloromethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Bromoform	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Bromomethane	ND	0.42	mg/Kg dry	4	R-05	SW-846 8260C	10/12/15	10/21/15 9:26	EEH
2-Butanone (MEK)	ND	4.2	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
tert-Butyl Alcohol (TBA)	ND	4.2	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
n-Butylbenzene	1.0	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
sec-Butylbenzene	0.87	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
tert-Butylbenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Carbon Disulfide	ND	0.63	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Carbon Tetrachloride	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Chlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Chlorodibromomethane	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Chloroethane	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Chloroform	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Chloromethane	ND	0.42	mg/Kg dry	4	L-04	SW-846 8260C	10/12/15	10/21/15 9:26	EEH
2-Chlorotoluene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
4-Chlorotoluene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	1.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2-Dibromoethane (EDB)	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Dibromomethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2-Dichlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,3-Dichlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,4-Dichlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
trans-1,4-Dichloro-2-butene	ND	0.42	mg/Kg dry	4	V-05	SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Dichlorodifluoromethane (Freon 12)	ND	0.42	mg/Kg dry	4	L-04, V-05	SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1-Dichloroethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2-Dichloroethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1-Dichloroethylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
cis-1,2-Dichloroethylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
trans-1,2-Dichloroethylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2-Dichloropropane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,3-Dichloropropane	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
2,2-Dichloropropane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1-Dichloropropene	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
cis-1,3-Dichloropropene	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
trans-1,3-Dichloropropene	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Diethyl Ether	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: B2 (8.5-10)
Sampled: 10/8/2015 16:45
Sample ID: 15J0496-01
Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,4-Dioxane	ND	11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Ethylbenzene	2.1	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Hexachlorobutadiene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
2-Hexanone (MBK)	ND	2.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Isopropylbenzene (Cumene)	1.5	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
p-Isopropyltoluene (p-Cymene)	1.4	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Methylene Chloride	ND	1.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
4-Methyl-2-pentanone (MIBK)	ND	2.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Naphthalene	0.99	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
n-Propylbenzene	2.7	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Styrene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1,1,2-Tetrachloroethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1,2,2-Tetrachloroethane	ND	0.11	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Tetrachloroethylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Tetrahydrofuran	ND	2.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Toluene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2,3-Trichlorobenzene	ND	1.1	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2,4-Trichlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,3,5-Trichlorobenzene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1,1-Trichloroethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1,2-Trichloroethane	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Trichloroethylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Trichlorofluoromethane (Freon 11)	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2,3-Trichloropropane	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,2,4-Trimethylbenzene	8.6	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
1,3,5-Trimethylbenzene	4.3	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
Vinyl Chloride	ND	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
m+p Xylene	1.9	0.42	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH
o-Xylene	ND	0.21	mg/Kg dry	4		SW-846 8260C	10/12/15	10/21/15 9:26	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	108	70-130		10/21/15 9:26
Toluene-d8	105	70-130		10/21/15 9:26
4-Bromofluorobenzene	115	70-130		10/21/15 9:26

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Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: B2 (8.5-10)
Sampled: 10/8/2015 16:45
Sample ID: 15J0496-01
Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
C19-C36 Aliphatics	ND	26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Unadjusted C11-C22 Aromatics	ND	26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
C11-C22 Aromatics	ND	26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Acenaphthene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Acenaphthylene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Anthracene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Benzo(a)anthracene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Benzo(a)pyrene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Benzo(b)fluoranthene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Benzo(g,h,i)perylene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Benzo(k)fluoranthene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Chrysene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Dibenz(a,h)anthracene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Fluoranthene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Fluorene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Indeno(1,2,3-cd)pyrene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
2-Methylnaphthalene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Naphthalene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Phenanthrene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS
Pyrene	ND	0.26	mg/Kg dry	1		MADEP-EPH-04-1.1	10/12/15	10/13/15 12:56	SCS

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	51.1	40-140		10/13/15 12:56
o-Terphenyl (OTP)	61.0	40-140		10/13/15 12:56
2-Bromonaphthalene	96.1	40-140		10/13/15 12:56
2-Fluorobiphenyl	98.8	40-140		10/13/15 12:56

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Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: B2 (8.5-10)
Sampled: 10/8/2015 16:45
Sample ID: 15J0496-01
Sample Matrix: Soil

Sample Flags: O-01
Soil/Methanol Preservation Ratio: 1.55

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	130	22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
C5-C8 Aliphatics	130	22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Unadjusted C9-C12 Aliphatics	120	22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
C9-C12 Aliphatics	47	22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
C9-C10 Aromatics	69	22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Benzene	ND	0.11	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Ethylbenzene	0.57	0.11	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.11	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Naphthalene	ND	0.56	mg/Kg dry	2	RL-05	MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
Toluene	ND	0.11	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
m+p Xylene	0.65	0.22	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH
o-Xylene	0.65	0.11	mg/Kg dry	2		MADEP-VPH-04-1.1	10/12/15	10/13/15 9:07	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
2,5-Dibromotoluene (FID)	90.0	70-130		10/13/15 9:07
2,5-Dibromotoluene (PID)	93.8	70-130		10/13/15 9:07

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Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: B2 (8.5-10)
Sampled: 10/8/2015 16:45
Sample ID: 15J0496-01
Sample Matrix: Soil

Conventional Chemistry Parameters by EPA/APHA/SW-846 Methods (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	77.8		% Wt	1		SM 2540G	10/10/15	10/13/15 8:28	MRL

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Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496
Date Received: 10/10/2015
Field Sample #: MW-1
Sampled: 10/8/2015 13:00
Sample ID: 15J0496-02
Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Acrylonitrile	ND	5.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Benzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Bromobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Bromochloromethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Bromodichloromethane	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Bromoform	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Bromomethane	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
2-Butanone (MEK)	ND	20	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
tert-Butyl Alcohol (TBA)	ND	20	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
n-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
sec-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
tert-Butylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Carbon Disulfide	ND	4.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Carbon Tetrachloride	ND	5.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Chlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Chlorodibromomethane	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Chloroethane	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Chloroform	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Chloromethane	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
2-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
4-Chlorotoluene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Dibromomethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,3-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,4-Dichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L	1	V-05	SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2-Dichloroethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
cis-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
trans-1,2-Dichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,3-Dichloropropane	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
2,2-Dichloropropane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1-Dichloropropene	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Diethyl Ether	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: DCI Suds Up, Portland
Sample Description:
Work Order: 15J0496

Date Received: 10/10/2015

Field Sample #: MW-1
Sampled: 10/8/2015 13:00

Sample ID: 15J0496-02

Sample Matrix: Ground Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,4-Dioxane	ND	50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Ethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Hexachlorobutadiene	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
2-Hexanone (MBK)	ND	10	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Isopropylbenzene (Cumene)	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Methylene Chloride	ND	5.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Naphthalene	ND	2.0	µg/L	1	V-06	SW-846 8260C	10/16/15	10/18/15 4:51	CMR
n-Propylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Styrene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Tetrachloroethylene	12	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Tetrahydrofuran	ND	10	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Toluene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,3,5-Trichlorobenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1,1-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1,2-Trichloroethane	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Trichloroethylene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2,3-Trichloropropane	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
Vinyl Chloride	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
m+p Xylene	ND	2.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR
o-Xylene	ND	1.0	µg/L	1		SW-846 8260C	10/16/15	10/18/15 4:51	CMR

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	105	70-130		10/18/15 4:51
Toluene-d8	107	70-130		10/18/15 4:51
4-Bromofluorobenzene	101	70-130		10/18/15 4:51

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Sample Extraction Data

Prep Method: SW-846 3546-MADEP-EPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15J0496-01 [B2 (8.5-10)]	B132687	10.0	2.00	10/12/15

Prep Method: MA VPH-MADEP-VPH-04-1.1

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
15J0496-01 [B2 (8.5-10)]	B132733	7.70	6.70	10/12/15

Prep Method: % Solids-SM 2540G

Lab Number [Field ID]	Batch	Date
15J0496-01 [B2 (8.5-10)]	B132683	10/10/15

Prep Method: SW-846 5035-SW-846 8260C

Lab Number [Field ID]	Batch	Sample Amount(g)	Methanol Volume(mL)	Methanol Aliquot(mL)	Final Volume(mL)	Date
15J0496-01 [B2 (8.5-10)]	B132961	8.34	6.85	0.25	50	10/12/15

Prep Method: SW-846 5030B-SW-846 8260C

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
15J0496-02 [MW-1]	B133111	5	5.00	10/16/15

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132961 - SW-846 5035										
Blank (B132961-BLK1)				Prepared: 10/15/15 Analyzed: 10/21/15						
Acetone	ND	0.050	mg/Kg wet							
Acrylonitrile	ND	0.0050	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.00050	mg/Kg wet							
Benzene	ND	0.0010	mg/Kg wet							
Bromobenzene	ND	0.0010	mg/Kg wet							
Bromochloromethane	ND	0.0010	mg/Kg wet							
Bromodichloromethane	ND	0.0010	mg/Kg wet							
Bromoform	ND	0.0010	mg/Kg wet							
Bromomethane	ND	0.0020	mg/Kg wet							R-05
2-Butanone (MEK)	ND	0.020	mg/Kg wet							
tert-Butyl Alcohol (TBA)	ND	0.020	mg/Kg wet							
n-Butylbenzene	ND	0.0010	mg/Kg wet							
sec-Butylbenzene	ND	0.0010	mg/Kg wet							
tert-Butylbenzene	ND	0.0010	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.00050	mg/Kg wet							
Carbon Disulfide	ND	0.0030	mg/Kg wet							
Carbon Tetrachloride	ND	0.0010	mg/Kg wet							
Chlorobenzene	ND	0.0010	mg/Kg wet							
Chlorodibromomethane	ND	0.00050	mg/Kg wet							
Chloroethane	ND	0.0020	mg/Kg wet							
Chloroform	ND	0.0020	mg/Kg wet							
Chloromethane	ND	0.0020	mg/Kg wet							L-04
2-Chlorotoluene	ND	0.0010	mg/Kg wet							
4-Chlorotoluene	ND	0.0010	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0050	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.00050	mg/Kg wet							
Dibromomethane	ND	0.0010	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0010	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0010	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.0010	mg/Kg wet							
trans-1,4-Dichloro-2-butene	ND	0.0020	mg/Kg wet							V-05
Dichlorodifluoromethane (Freon 12)	ND	0.0020	mg/Kg wet							L-04, V-05
1,1-Dichloroethane	ND	0.0010	mg/Kg wet							
1,2-Dichloroethane	ND	0.0010	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0010	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0010	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0010	mg/Kg wet							
1,2-Dichloropropane	ND	0.0010	mg/Kg wet							
1,3-Dichloropropane	ND	0.00050	mg/Kg wet							
2,2-Dichloropropane	ND	0.0010	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.00050	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.00050	mg/Kg wet							
Diethyl Ether	ND	0.0020	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.00050	mg/Kg wet							
1,4-Dioxane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.0010	mg/Kg wet							
Hexachlorobutadiene	ND	0.0010	mg/Kg wet							
2-Hexanone (MBK)	ND	0.010	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0010	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0010	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0010	mg/Kg wet							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B132961 - SW-846 5035												
Blank (B132961-BLK1)				Prepared: 10/15/15 Analyzed: 10/21/15								
Methylene Chloride	ND	0.0050	mg/Kg wet									
4-Methyl-2-pentanone (MIBK)	ND	0.010	mg/Kg wet									
Naphthalene	ND	0.0020	mg/Kg wet									
n-Propylbenzene	ND	0.0010	mg/Kg wet									
Styrene	ND	0.0010	mg/Kg wet									
1,1,1,2-Tetrachloroethane	ND	0.0010	mg/Kg wet									
1,1,2,2-Tetrachloroethane	ND	0.00050	mg/Kg wet									
Tetrachloroethylene	ND	0.0010	mg/Kg wet									
Tetrahydrofuran	ND	0.010	mg/Kg wet									
Toluene	ND	0.0010	mg/Kg wet									
1,2,3-Trichlorobenzene	ND	0.0050	mg/Kg wet									
1,2,4-Trichlorobenzene	ND	0.0010	mg/Kg wet									
1,3,5-Trichlorobenzene	ND	0.0010	mg/Kg wet									
1,1,1-Trichloroethane	ND	0.0010	mg/Kg wet									
1,1,2-Trichloroethane	ND	0.0010	mg/Kg wet									
Trichloroethylene	ND	0.0010	mg/Kg wet									
Trichlorofluoromethane (Freon 11)	ND	0.0020	mg/Kg wet									
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.0010	mg/Kg wet									
1,2,4-Trimethylbenzene	ND	0.0010	mg/Kg wet									
1,3,5-Trimethylbenzene	ND	0.0010	mg/Kg wet									
Vinyl Chloride	ND	0.0020	mg/Kg wet									
m+p Xylene	ND	0.0020	mg/Kg wet									
o-Xylene	ND	0.0010	mg/Kg wet									
Surrogate: 1,2-Dichloroethane-d4	*0.0288*		mg/Kg wet	0.0250		115		70-130				
Surrogate: Toluene-d8	*0.0270*		mg/Kg wet	0.0250		108		70-130				
Surrogate: 4-Bromofluorobenzene	*0.0232*		mg/Kg wet	0.0250		92.6		70-130				
LCS (B132961-BS1)				Prepared: 10/15/15 Analyzed: 10/21/15								
Acetone	0.119	0.057	mg/Kg wet	0.113		105		70-160				†
Acrylonitrile	0.0115	0.0057	mg/Kg wet	0.0113		101		70-130				
tert-Amyl Methyl Ether (TAME)	0.0112	0.00057	mg/Kg wet	0.0113		99.0		70-130				
Benzene	0.0130	0.0011	mg/Kg wet	0.0113		115		70-130				
Bromobenzene	0.0114	0.0011	mg/Kg wet	0.0113		101		70-130				
Bromochloromethane	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130				
Bromodichloromethane	0.0121	0.0011	mg/Kg wet	0.0113		106		70-130				
Bromoform	0.00940	0.0011	mg/Kg wet	0.0113		82.9		70-130				
Bromomethane	0.00376	0.0023	mg/Kg wet	0.0113		**33.2**	*	40-130			L-07A, R-05	†
2-Butanone (MEK)	0.112	0.023	mg/Kg wet	0.113		98.9		70-160				†
tert-Butyl Alcohol (TBA)	0.0922	0.023	mg/Kg wet	0.113		81.3		40-130				†
n-Butylbenzene	0.0114	0.0011	mg/Kg wet	0.0113		100		70-130				
sec-Butylbenzene	0.0124	0.0011	mg/Kg wet	0.0113		109		70-130				
tert-Butylbenzene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-160				†
tert-Butyl Ethyl Ether (TBEE)	0.0118	0.00057	mg/Kg wet	0.0113		104		70-130				
Carbon Disulfide	0.0142	0.0034	mg/Kg wet	0.0113		125		70-130			V-20	
Carbon Tetrachloride	0.0129	0.0011	mg/Kg wet	0.0113		114		70-130				
Chlorobenzene	0.0122	0.0011	mg/Kg wet	0.0113		108		70-130				
Chlorodibromomethane	0.0112	0.00057	mg/Kg wet	0.0113		98.6		70-130				
Chloroethane	0.0207	0.0023	mg/Kg wet	0.0113		**182**	*	70-130			L-02, V-20	
Chloroform	0.0130	0.0023	mg/Kg wet	0.0113		115		70-130				
Chloromethane	0.00537	0.0023	mg/Kg wet	0.0113		**47.4**	*	70-130			L-04	
2-Chlorotoluene	0.0117	0.0011	mg/Kg wet	0.0113		103		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B132961 - SW-846 5035												
LCS (B132961-BS1)				Prepared: 10/15/15 Analyzed: 10/21/15								
4-Chlorotoluene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0112	0.0057	mg/Kg wet	0.0113		99.0		70-130				
1,2-Dibromoethane (EDB)	0.0124	0.00057	mg/Kg wet	0.0113		110		70-130				
Dibromomethane	0.0121	0.0011	mg/Kg wet	0.0113		106		70-130				
1,2-Dichlorobenzene	0.0113	0.0011	mg/Kg wet	0.0113		100		70-130				
1,3-Dichlorobenzene	0.0121	0.0011	mg/Kg wet	0.0113		107		70-130				
1,4-Dichlorobenzene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130				
trans-1,4-Dichloro-2-butene	0.00790	0.0023	mg/Kg wet	0.0113		**69.7**	*	70-130			L-07, V-05	
Dichlorodifluoromethane (Freon 12)	0.00383	0.0023	mg/Kg wet	0.0113		**33.8**	*	40-160			L-04, V-05	†
1,1-Dichloroethane	0.0132	0.0011	mg/Kg wet	0.0113		117		70-130				
1,2-Dichloroethane	0.0114	0.0011	mg/Kg wet	0.0113		101		70-130				
1,1-Dichloroethylene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130				
cis-1,2-Dichloroethylene	0.0128	0.0011	mg/Kg wet	0.0113		113		70-130				
trans-1,2-Dichloroethylene	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130				
1,2-Dichloropropane	0.0111	0.0011	mg/Kg wet	0.0113		98.1		70-130				
1,3-Dichloropropane	0.0121	0.00057	mg/Kg wet	0.0113		107		70-130				
2,2-Dichloropropane	0.0121	0.0011	mg/Kg wet	0.0113		106		70-130				
1,1-Dichloropropene	0.0131	0.0023	mg/Kg wet	0.0113		116		70-130				
cis-1,3-Dichloropropene	0.0110	0.00057	mg/Kg wet	0.0113		97.1		70-130				
trans-1,3-Dichloropropene	0.0119	0.00057	mg/Kg wet	0.0113		105		70-130				
Diethyl Ether	0.0123	0.0023	mg/Kg wet	0.0113		108		70-130				
Diisopropyl Ether (DIPE)	0.0107	0.00057	mg/Kg wet	0.0113		94.4		70-130				
1,4-Dioxane	0.101	0.057	mg/Kg wet	0.113		88.8		40-160				†
Ethylbenzene	0.0121	0.0011	mg/Kg wet	0.0113		107		70-130				
Hexachlorobutadiene	0.00927	0.0011	mg/Kg wet	0.0113		81.8		70-160				
2-Hexanone (MBK)	0.0976	0.011	mg/Kg wet	0.113		86.1		70-160				†
Isopropylbenzene (Cumene)	0.0121	0.0011	mg/Kg wet	0.0113		107		70-130				
p-Isopropyltoluene (p-Cymene)	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130				
Methyl tert-Butyl Ether (MTBE)	0.0114	0.0011	mg/Kg wet	0.0113		100		70-130				
Methylene Chloride	0.0128	0.0057	mg/Kg wet	0.0113		113		40-160				†
4-Methyl-2-pentanone (MIBK)	0.0936	0.011	mg/Kg wet	0.113		82.6		70-160				†
Naphthalene	0.0115	0.0023	mg/Kg wet	0.0113		101		40-130				†
n-Propylbenzene	0.0122	0.0011	mg/Kg wet	0.0113		107		70-130				
Styrene	0.0116	0.0011	mg/Kg wet	0.0113		103		70-130				
1,1,1,2-Tetrachloroethane	0.0110	0.0011	mg/Kg wet	0.0113		97.0		70-130				
1,1,2,2-Tetrachloroethane	0.0114	0.00057	mg/Kg wet	0.0113		101		70-130				
Tetrachloroethylene	0.0117	0.0011	mg/Kg wet	0.0113		103		70-130				
Tetrahydrofuran	0.0104	0.011	mg/Kg wet	0.0113		92.2		70-130				
Toluene	0.0126	0.0011	mg/Kg wet	0.0113		111		70-130				
1,2,3-Trichlorobenzene	0.0112	0.0057	mg/Kg wet	0.0113		99.0		70-130				
1,2,4-Trichlorobenzene	0.0104	0.0011	mg/Kg wet	0.0113		92.0		70-130				
1,3,5-Trichlorobenzene	0.00921	0.0011	mg/Kg wet	0.0113		81.3		70-130				
1,1,1-Trichloroethane	0.0129	0.0011	mg/Kg wet	0.0113		114		70-130				
1,1,2-Trichloroethane	0.0124	0.0011	mg/Kg wet	0.0113		109		70-130				
Trichloroethylene	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130				
Trichlorofluoromethane (Freon 11)	0.0121	0.0023	mg/Kg wet	0.0113		107		70-130				
1,2,3-Trichloropropane	0.0115	0.0023	mg/Kg wet	0.0113		101		70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130				
1,2,4-Trimethylbenzene	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130				
1,3,5-Trimethylbenzene	0.0114	0.0011	mg/Kg wet	0.0113		101		70-130				
Vinyl Chloride	0.0131	0.0023	mg/Kg wet	0.0113		116		40-130				†

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD		RPD Limit	Notes	
Batch B132961 - SW-846 5035													
LCS (B132961-BS1)				Prepared: 10/15/15 Analyzed: 10/21/15									
m+p Xylene	0.0243	0.0023	mg/Kg wet	0.0227		107		70-130					
o-Xylene	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130					
Surrogate: 1,2-Dichloroethane-d4	*0.0307*		mg/Kg wet	0.0283		109		70-130					
Surrogate: Toluene-d8	*0.0296*		mg/Kg wet	0.0283		105		70-130					
Surrogate: 4-Bromofluorobenzene	*0.0272*		mg/Kg wet	0.0283		96.0		70-130					
LCS Dup (B132961-BSD1)				Prepared: 10/15/15 Analyzed: 10/21/15									
Acetone	0.114	0.057	mg/Kg wet	0.113		101		70-160	4.05		25		†
Acrylonitrile	0.0117	0.0057	mg/Kg wet	0.0113		103		70-130	1.57		25		
tert-Amyl Methyl Ether (TAME)	0.0110	0.00057	mg/Kg wet	0.0113		97.4		70-130	1.63		25		
Benzene	0.0130	0.0011	mg/Kg wet	0.0113		115		70-130	0.0873		25		
Bromobenzene	0.0111	0.0011	mg/Kg wet	0.0113		97.7		70-130	3.32		25		
Bromochloromethane	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130	0.858		25		
Bromodichloromethane	0.0114	0.0011	mg/Kg wet	0.0113		101		70-130	5.50		25		
Bromoform	0.00929	0.0011	mg/Kg wet	0.0113		82.0		70-130	1.09		25		
Bromomethane	0.00512	0.0023	mg/Kg wet	0.0113		45.2		40-130	**30.6**	*	25	R-05	†
2-Butanone (MEK)	0.109	0.023	mg/Kg wet	0.113		96.1		70-160	2.90		25		†
tert-Butyl Alcohol (TBA)	0.0934	0.023	mg/Kg wet	0.113		82.4		40-130	1.32		25		†
n-Butylbenzene	0.0115	0.0011	mg/Kg wet	0.0113		102		70-130	1.58		25		
sec-Butylbenzene	0.0126	0.0011	mg/Kg wet	0.0113		112		70-130	1.90		25		
tert-Butylbenzene	0.0119	0.0011	mg/Kg wet	0.0113		105		70-160	1.05		25		†
tert-Butyl Ethyl Ether (TBEE)	0.0116	0.00057	mg/Kg wet	0.0113		103		70-130	1.74		25		
Carbon Disulfide	0.0140	0.0034	mg/Kg wet	0.0113		124		70-130	1.04		25	V-20	
Carbon Tetrachloride	0.0127	0.0011	mg/Kg wet	0.0113		112		70-130	1.59		25		
Chlorobenzene	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	0.646		25		
Chlorodibromomethane	0.0109	0.00057	mg/Kg wet	0.0113		96.5		70-130	2.15		25		
Chloroethane	0.0211	0.0023	mg/Kg wet	0.0113		**186**	*	70-130	1.90		25	L-02, V-20	
Chloroform	0.0132	0.0023	mg/Kg wet	0.0113		116		70-130	1.04		25		
Chloromethane	0.00620	0.0023	mg/Kg wet	0.0113		**54.7**	*	70-130	14.3		25	L-04	
2-Chlorotoluene	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130	1.82		25		
4-Chlorotoluene	0.0115	0.0011	mg/Kg wet	0.0113		102		70-130	2.14		25		
1,2-Dibromo-3-chloropropane (DBCP)	0.0108	0.0057	mg/Kg wet	0.0113		95.2		70-130	3.91		25		
1,2-Dibromoethane (EDB)	0.0122	0.00057	mg/Kg wet	0.0113		108		70-130	1.66		25		
Dibromomethane	0.0123	0.0011	mg/Kg wet	0.0113		108		70-130	1.68		25		
1,2-Dichlorobenzene	0.0113	0.0011	mg/Kg wet	0.0113		99.8		70-130	0.300		25		
1,3-Dichlorobenzene	0.0122	0.0011	mg/Kg wet	0.0113		108		70-130	0.651		25		
1,4-Dichlorobenzene	0.0113	0.0011	mg/Kg wet	0.0113		100		70-130	4.21		25		
trans-1,4-Dichloro-2-butene	0.00806	0.0023	mg/Kg wet	0.0113		71.1		70-130	1.99		25	V-05	
Dichlorodifluoromethane (Freon 12)	0.00374	0.0023	mg/Kg wet	0.0113		**33.0**	*	40-160	2.40		25	L-04, V-05	†
1,1-Dichloroethane	0.0131	0.0011	mg/Kg wet	0.0113		116		70-130	0.774		25		
1,2-Dichloroethane	0.0114	0.0011	mg/Kg wet	0.0113		100		70-130	0.496		25		
1,1-Dichloroethylene	0.0117	0.0011	mg/Kg wet	0.0113		103		70-130	0.290		25		
cis-1,2-Dichloroethylene	0.0123	0.0011	mg/Kg wet	0.0113		109		70-130	3.34		25		
trans-1,2-Dichloroethylene	0.0120	0.0011	mg/Kg wet	0.0113		106		70-130	0.0946		25		
1,2-Dichloropropane	0.0112	0.0011	mg/Kg wet	0.0113		98.6		70-130	0.508		25		
1,3-Dichloropropane	0.0120	0.00057	mg/Kg wet	0.0113		106		70-130	0.564		25		
2,2-Dichloropropane	0.0113	0.0011	mg/Kg wet	0.0113		99.8		70-130	6.50		25		
1,1-Dichloropropene	0.0131	0.0023	mg/Kg wet	0.0113		116		70-130	0.173		25		
cis-1,3-Dichloropropene	0.0111	0.00057	mg/Kg wet	0.0113		98.1		70-130	1.02		25		
trans-1,3-Dichloropropene	0.0115	0.00057	mg/Kg wet	0.0113		101		70-130	3.87		25		
Diethyl Ether	0.0116	0.0023	mg/Kg wet	0.0113		102		70-130	5.51		25		
Diisopropyl Ether (DIPE)	0.0107	0.00057	mg/Kg wet	0.0113		94.7		70-130	0.317		25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132961 - SW-846 5035										
LCS Dup (B132961-BSD1)				Prepared: 10/15/15 Analyzed: 10/21/15						
1,4-Dioxane	0.108	0.057	mg/Kg wet	0.113		95.7	40-160	7.39	50	† ‡
Ethylbenzene	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130	0.753	25	
Hexachlorobutadiene	0.0101	0.0011	mg/Kg wet	0.0113		89.5	70-160	8.99	25	
2-Hexanone (MBK)	0.0980	0.011	mg/Kg wet	0.113		86.5	70-160	0.452	25	†
Isopropylbenzene (Cumene)	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130	0.470	25	
p-Isopropyltoluene (p-Cymene)	0.0127	0.0011	mg/Kg wet	0.0113		112	70-130	0.00	25	
Methyl tert-Butyl Ether (MTBE)	0.0111	0.0011	mg/Kg wet	0.0113		98.1	70-130	2.12	25	
Methylene Chloride	0.0136	0.0057	mg/Kg wet	0.0113		120	40-160	5.93	25	†
4-Methyl-2-pentanone (MIBK)	0.0931	0.011	mg/Kg wet	0.113		82.2	70-160	0.522	25	†
Naphthalene	0.0115	0.0023	mg/Kg wet	0.0113		102	40-130	0.493	25	†
n-Propylbenzene	0.0124	0.0011	mg/Kg wet	0.0113		110	70-130	2.03	25	
Styrene	0.0114	0.0011	mg/Kg wet	0.0113		101	70-130	1.67	25	
1,1,1,2-Tetrachloroethane	0.0109	0.0011	mg/Kg wet	0.0113		96.4	70-130	0.620	25	
1,1,2,2-Tetrachloroethane	0.0115	0.00057	mg/Kg wet	0.0113		101	70-130	0.593	25	
Tetrachloroethylene	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130	2.01	25	
Tetrahydrofuran	0.0105	0.011	mg/Kg wet	0.0113		92.8	70-130	0.649	25	
Toluene	0.0124	0.0011	mg/Kg wet	0.0113		110	70-130	1.72	25	
1,2,3-Trichlorobenzene	0.0111	0.0057	mg/Kg wet	0.0113		97.9	70-130	1.12	25	
1,2,4-Trichlorobenzene	0.0104	0.0011	mg/Kg wet	0.0113		91.4	70-130	0.654	25	
1,3,5-Trichlorobenzene	0.00923	0.0011	mg/Kg wet	0.0113		81.4	70-130	0.123	25	
1,1,1-Trichloroethane	0.0126	0.0011	mg/Kg wet	0.0113		111	70-130	2.40	25	
1,1,2-Trichloroethane	0.0125	0.0011	mg/Kg wet	0.0113		110	70-130	0.730	25	
Trichloroethylene	0.0128	0.0011	mg/Kg wet	0.0113		113	70-130	1.07	25	
Trichlorofluoromethane (Freon 11)	0.0122	0.0023	mg/Kg wet	0.0113		107	70-130	0.560	25	
1,2,3-Trichloropropane	0.0115	0.0023	mg/Kg wet	0.0113		101	70-130	0.198	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	0.0125	0.0011	mg/Kg wet	0.0113		110	70-130	3.98	25	
1,2,4-Trimethylbenzene	0.0121	0.0011	mg/Kg wet	0.0113		106	70-130	0.282	25	
1,3,5-Trimethylbenzene	0.0114	0.0011	mg/Kg wet	0.0113		101	70-130	0.397	25	
Vinyl Chloride	0.0132	0.0023	mg/Kg wet	0.0113		116	40-130	0.172	25	†
m+p Xylene	0.0243	0.0023	mg/Kg wet	0.0227		107	70-130	0.0933	25	
o-Xylene	0.0122	0.0011	mg/Kg wet	0.0113		107	70-130	1.50	25	
Surrogate: 1,2-Dichloroethane-d4	*0.0306*		mg/Kg wet	0.0283		108	70-130			
Surrogate: Toluene-d8	*0.0300*		mg/Kg wet	0.0283		106	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0271*		mg/Kg wet	0.0283		95.8	70-130			
Batch B133111 - SW-846 5030B										
Blank (B133111-BLK1)				Prepared: 10/16/15 Analyzed: 10/18/15						
Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B133111 - SW-846 5030B										
Blank (B133111-BLK1)				Prepared: 10/16/15 Analyzed: 10/18/15						
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	4.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							V-05
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L							
Methylene Chloride	ND	5.0	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L							
Naphthalene	ND	2.0	µg/L							
n-Propylbenzene	ND	1.0	µg/L							
Styrene	ND	1.0	µg/L							
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	1.0	µg/L							
Tetrahydrofuran	ND	10	µg/L							
Toluene	ND	1.0	µg/L							
1,2,3-Trichlorobenzene	ND	5.0	µg/L							
1,2,4-Trichlorobenzene	ND	1.0	µg/L							
1,3,5-Trichlorobenzene	ND	1.0	µg/L							
1,1,1-Trichloroethane	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B133111 - SW-846 5030B												
Blank (B133111-BLK1)				Prepared: 10/16/15 Analyzed: 10/18/15								
1,1,2-Trichloroethane	ND	1.0	µg/L									
Trichloroethylene	ND	1.0	µg/L									
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L									
1,2,3-Trichloropropane	ND	2.0	µg/L									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L									
1,2,4-Trimethylbenzene	ND	1.0	µg/L									
1,3,5-Trimethylbenzene	ND	1.0	µg/L									
Vinyl Chloride	ND	2.0	µg/L									
m+p Xylene	ND	2.0	µg/L									
o-Xylene	ND	1.0	µg/L									
Surrogate: 1,2-Dichloroethane-d4	*26.2*		µg/L	25.0		105		70-130				
Surrogate: Toluene-d8	*26.6*		µg/L	25.0		107		70-130				
Surrogate: 4-Bromofluorobenzene	*25.5*		µg/L	25.0		102		70-130				
LCS (B133111-BS1)				Prepared: 10/16/15 Analyzed: 10/17/15								
Acetone	103	50	µg/L	100		103		70-160				†
Acrylonitrile	10.8	5.0	µg/L	10.0		108		70-130				
tert-Amyl Methyl Ether (TAME)	9.73	0.50	µg/L	10.0		97.3		70-130				
Benzene	11.2	1.0	µg/L	10.0		112		70-130				
Bromobenzene	10.4	1.0	µg/L	10.0		104		70-130				
Bromochloromethane	10.1	1.0	µg/L	10.0		101		70-130				
Bromodichloromethane	10.4	0.50	µg/L	10.0		104		70-130				
Bromoform	9.76	1.0	µg/L	10.0		97.6		70-130				
Bromomethane	4.38	2.0	µg/L	10.0		43.8		40-160			V-20	†
2-Butanone (MEK)	102	20	µg/L	100		102		40-160				†
tert-Butyl Alcohol (TBA)	94.9	20	µg/L	100		94.9		40-160				†
n-Butylbenzene	9.67	1.0	µg/L	10.0		96.7		70-130				
sec-Butylbenzene	10.9	1.0	µg/L	10.0		109		70-130				
tert-Butylbenzene	10.5	1.0	µg/L	10.0		105		70-130				
tert-Butyl Ethyl Ether (TBEE)	10.1	0.50	µg/L	10.0		101		70-130				
Carbon Disulfide	12.8	4.0	µg/L	10.0		128		70-130			V-20	
Carbon Tetrachloride	11.4	5.0	µg/L	10.0		114		70-130				
Chlorobenzene	11.6	1.0	µg/L	10.0		116		70-130				
Chlorodibromomethane	10.5	0.50	µg/L	10.0		105		70-130				
Chloroethane	18.3	2.0	µg/L	10.0		**183**	*	70-130			L-02, V-20	
Chloroform	11.3	2.0	µg/L	10.0		113		70-130				
Chloromethane	5.68	2.0	µg/L	10.0		56.8		40-160				†
2-Chlorotoluene	11.2	1.0	µg/L	10.0		112		70-130				
4-Chlorotoluene	10.9	1.0	µg/L	10.0		109		70-130				
1,2-Dibromo-3-chloropropane (DBCP)	11.0	5.0	µg/L	10.0		110		70-130				
1,2-Dibromoethane (EDB)	11.7	0.50	µg/L	10.0		117		70-130				
Dibromomethane	11.0	1.0	µg/L	10.0		110		70-130				
1,2-Dichlorobenzene	10.2	1.0	µg/L	10.0		102		70-130				
1,3-Dichlorobenzene	10.6	1.0	µg/L	10.0		106		70-130				
1,4-Dichlorobenzene	10.5	1.0	µg/L	10.0		105		70-130				
trans-1,4-Dichloro-2-butene	7.39	2.0	µg/L	10.0		73.9		70-130			V-05	
Dichlorodifluoromethane (Freon 12)	3.85	2.0	µg/L	10.0		**38.5**	*	40-160			L-07	†
1,1-Dichloroethane	11.1	1.0	µg/L	10.0		111		70-130				
1,2-Dichloroethane	9.54	1.0	µg/L	10.0		95.4		70-130				
1,1-Dichloroethylene	10.3	1.0	µg/L	10.0		103		70-130				
cis-1,2-Dichloroethylene	10.4	1.0	µg/L	10.0		104		70-130				
trans-1,2-Dichloroethylene	10.0	1.0	µg/L	10.0		100		70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B133111 - SW-846 5030B											
LCS (B133111-BS1)				Prepared: 10/16/15 Analyzed: 10/17/15							
1,2-Dichloropropane	9.62	1.0	µg/L	10.0		96.2	70-130				
1,3-Dichloropropane	10.5	0.50	µg/L	10.0		105	70-130				
2,2-Dichloropropane	8.73	1.0	µg/L	10.0		87.3	40-130				†
1,1-Dichloropropene	11.1	2.0	µg/L	10.0		111	70-130				
cis-1,3-Dichloropropene	9.60	0.50	µg/L	10.0		96.0	70-130				
trans-1,3-Dichloropropene	10.2	0.50	µg/L	10.0		102	70-130				
Diethyl Ether	10.6	2.0	µg/L	10.0		106	70-130				
Diisopropyl Ether (DIPE)	8.99	0.50	µg/L	10.0		89.9	70-130				
1,4-Dioxane	106	50	µg/L	100		106	40-130			V-20	†
Ethylbenzene	11.1	1.0	µg/L	10.0		111	70-130				
Hexachlorobutadiene	9.07	0.50	µg/L	10.0		90.7	70-130				
2-Hexanone (MBK)	94.5	10	µg/L	100		94.5	70-160				†
Isopropylbenzene (Cumene)	11.3	1.0	µg/L	10.0		113	70-130				
p-Isopropyltoluene (p-Cymene)	11.3	1.0	µg/L	10.0		113	70-130				
Methyl tert-Butyl Ether (MTBE)	10.2	1.0	µg/L	10.0		102	70-130				
Methylene Chloride	10.7	5.0	µg/L	10.0		107	70-130				
4-Methyl-2-pentanone (MIBK)	94.2	10	µg/L	100		94.2	70-160				†
Naphthalene	12.5	2.0	µg/L	10.0		125	40-130			V-06	†
n-Propylbenzene	11.1	1.0	µg/L	10.0		111	70-130				
Styrene	11.2	1.0	µg/L	10.0		112	70-130				
1,1,1,2-Tetrachloroethane	11.0	1.0	µg/L	10.0		110	70-130				
1,1,2,2-Tetrachloroethane	11.5	0.50	µg/L	10.0		115	70-130				
Tetrachloroethylene	10.9	1.0	µg/L	10.0		109	70-130				
Tetrahydrofuran	10.2	10	µg/L	10.0		102	70-130				
Toluene	11.0	1.0	µg/L	10.0		110	70-130				
1,2,3-Trichlorobenzene	11.3	5.0	µg/L	10.0		113	70-130				
1,2,4-Trichlorobenzene	9.99	1.0	µg/L	10.0		99.9	70-130				
1,3,5-Trichlorobenzene	8.66	1.0	µg/L	10.0		86.6	70-130				
1,1,1-Trichloroethane	11.1	1.0	µg/L	10.0		111	70-130				
1,1,2-Trichloroethane	11.6	1.0	µg/L	10.0		116	70-130				
Trichloroethylene	10.7	1.0	µg/L	10.0		107	70-130				
Trichlorofluoromethane (Freon 11)	10.3	2.0	µg/L	10.0		103	70-130				
1,2,3-Trichloropropane	11.1	2.0	µg/L	10.0		111	70-130				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.6	1.0	µg/L	10.0		106	70-130				
1,2,4-Trimethylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
1,3,5-Trimethylbenzene	10.9	1.0	µg/L	10.0		109	70-130				
Vinyl Chloride	9.94	2.0	µg/L	10.0		99.4	40-160				†
m+p Xylene	22.3	2.0	µg/L	20.0		111	70-130				
o-Xylene	11.3	1.0	µg/L	10.0		113	70-130				
Surrogate: 1,2-Dichloroethane-d4	*25.2*		µg/L	25.0		101	70-130				
Surrogate: Toluene-d8	*26.4*		µg/L	25.0		106	70-130				
Surrogate: 4-Bromofluorobenzene	*25.8*		µg/L	25.0		103	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B133111 - SW-846 5030B												
LCS Dup (B133111-BSD1)				Prepared: 10/16/15 Analyzed: 10/17/15								
Acetone	110	50	µg/L	100		110		70-160	6.16	25		†
Acrylonitrile	11.6	5.0	µg/L	10.0		116		70-130	6.88	25		
tert-Amyl Methyl Ether (TAME)	9.97	0.50	µg/L	10.0		99.7		70-130	2.44	25		
Benzene	11.3	1.0	µg/L	10.0		113		70-130	0.178	25		
Bromobenzene	10.6	1.0	µg/L	10.0		106		70-130	2.10	25		
Bromochloromethane	10.7	1.0	µg/L	10.0		107		70-130	5.77	25		
Bromodichloromethane	9.93	0.50	µg/L	10.0		99.3		70-130	4.33	25		
Bromoform	9.95	1.0	µg/L	10.0		99.5		70-130	1.93	25		
Bromomethane	5.52	2.0	µg/L	10.0		55.2		40-160	23.0	25	V-20	†
2-Butanone (MEK)	111	20	µg/L	100		111		40-160	9.02	25		†
tert-Butyl Alcohol (TBA)	105	20	µg/L	100		105		40-160	10.1	25		†
n-Butylbenzene	10.1	1.0	µg/L	10.0		101		70-130	4.05	25		
sec-Butylbenzene	11.2	1.0	µg/L	10.0		112		70-130	2.44	25		
tert-Butylbenzene	10.8	1.0	µg/L	10.0		108		70-130	2.90	25		
tert-Butyl Ethyl Ether (TBEE)	10.2	0.50	µg/L	10.0		102		70-130	1.28	25		
Carbon Disulfide	12.6	4.0	µg/L	10.0		126		70-130	1.02	25	V-20	
Carbon Tetrachloride	11.4	5.0	µg/L	10.0		114		70-130	0.789	25		
Chlorobenzene	11.8	1.0	µg/L	10.0		118		70-130	1.54	25		
Chlorodibromomethane	10.7	0.50	µg/L	10.0		107		70-130	1.41	25		
Chloroethane	19.0	2.0	µg/L	10.0		**190**	*	70-130	3.80	25	L-02, V-20	
Chloroform	11.3	2.0	µg/L	10.0		113		70-130	0.531	25		
Chloromethane	6.34	2.0	µg/L	10.0		63.4		40-160	11.0	25		†
2-Chlorotoluene	11.4	1.0	µg/L	10.0		114		70-130	2.21	25		
4-Chlorotoluene	10.9	1.0	µg/L	10.0		109		70-130	0.275	25		
1,2-Dibromo-3-chloropropane (DBCP)	10.9	5.0	µg/L	10.0		109		70-130	1.19	25		
1,2-Dibromoethane (EDB)	11.8	0.50	µg/L	10.0		118		70-130	1.53	25		
Dibromomethane	11.6	1.0	µg/L	10.0		116		70-130	5.22	25		
1,2-Dichlorobenzene	10.5	1.0	µg/L	10.0		105		70-130	3.48	25		
1,3-Dichlorobenzene	11.0	1.0	µg/L	10.0		110		70-130	3.87	25		
1,4-Dichlorobenzene	10.9	1.0	µg/L	10.0		109		70-130	3.75	25		
trans-1,4-Dichloro-2-butene	7.58	2.0	µg/L	10.0		75.8		70-130	2.54	25	V-05	
Dichlorodifluoromethane (Freon 12)	4.18	2.0	µg/L	10.0		41.8		40-160	8.22	25		†
1,1-Dichloroethane	11.2	1.0	µg/L	10.0		112		70-130	0.538	25		
1,2-Dichloroethane	9.85	1.0	µg/L	10.0		98.5		70-130	3.20	25		
1,1-Dichloroethylene	10.2	1.0	µg/L	10.0		102		70-130	0.880	25		
cis-1,2-Dichloroethylene	10.5	1.0	µg/L	10.0		105		70-130	0.766	25		
trans-1,2-Dichloroethylene	10.2	1.0	µg/L	10.0		102		70-130	1.68	25		
1,2-Dichloropropane	9.75	1.0	µg/L	10.0		97.5		70-130	1.34	25		
1,3-Dichloropropane	10.8	0.50	µg/L	10.0		108		70-130	2.83	25		
2,2-Dichloropropane	8.54	1.0	µg/L	10.0		85.4		40-130	2.20	25		†
1,1-Dichloropropene	11.0	2.0	µg/L	10.0		110		70-130	0.362	25		
cis-1,3-Dichloropropene	9.67	0.50	µg/L	10.0		96.7		70-130	0.727	25		
trans-1,3-Dichloropropene	10.5	0.50	µg/L	10.0		105		70-130	3.08	25		
Diethyl Ether	11.3	2.0	µg/L	10.0		113		70-130	6.49	25		
Diisopropyl Ether (DIPE)	9.17	0.50	µg/L	10.0		91.7		70-130	1.98	25		
1,4-Dioxane	102	50	µg/L	100		102		40-130	4.19	50	V-20	† ‡
Ethylbenzene	11.3	1.0	µg/L	10.0		113		70-130	1.52	25		
Hexachlorobutadiene	9.98	0.50	µg/L	10.0		99.8		70-130	9.55	25		
2-Hexanone (MBK)	97.4	10	µg/L	100		97.4		70-160	2.96	25		†
Isopropylbenzene (Cumene)	11.5	1.0	µg/L	10.0		115		70-130	1.14	25		
p-Isopropyltoluene (p-Cymene)	11.5	1.0	µg/L	10.0		115		70-130	1.58	25		
Methyl tert-Butyl Ether (MTBE)	10.5	1.0	µg/L	10.0		105		70-130	2.90	25		

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B133111 - SW-846 5030B											
LCS Dup (B133111-BSD1)				Prepared: 10/16/15 Analyzed: 10/17/15							
Methylene Chloride	12.0	5.0	µg/L	10.0		120	70-130	11.3	25		
4-Methyl-2-pentanone (MIBK)	96.6	10	µg/L	100		96.6	70-160	2.54	25		†
Naphthalene	13.0	2.0	µg/L	10.0		130	40-130	3.77	25	V-06	†
n-Propylbenzene	11.3	1.0	µg/L	10.0		113	70-130	1.87	25		
Styrene	11.2	1.0	µg/L	10.0		112	70-130	0.447	25		
1,1,1,2-Tetrachloroethane	10.8	1.0	µg/L	10.0		108	70-130	1.19	25		
1,1,2,2-Tetrachloroethane	11.5	0.50	µg/L	10.0		115	70-130	0.0869	25		
Tetrachloroethylene	11.1	1.0	µg/L	10.0		111	70-130	2.09	25		
Tetrahydrofuran	10.4	10	µg/L	10.0		104	70-130	2.53	25		
Toluene	11.0	1.0	µg/L	10.0		110	70-130	0.00	25		
1,2,3-Trichlorobenzene	12.1	5.0	µg/L	10.0		121	70-130	6.68	25		
1,2,4-Trichlorobenzene	10.6	1.0	µg/L	10.0		106	70-130	5.83	25		
1,3,5-Trichlorobenzene	9.20	1.0	µg/L	10.0		92.0	70-130	6.05	25		
1,1,1-Trichloroethane	11.3	1.0	µg/L	10.0		113	70-130	2.41	25		
1,1,2-Trichloroethane	11.4	1.0	µg/L	10.0		114	70-130	1.48	25		
Trichloroethylene	11.2	1.0	µg/L	10.0		112	70-130	4.76	25		
Trichlorofluoromethane (Freon 11)	10.8	2.0	µg/L	10.0		108	70-130	5.12	25		
1,2,3-Trichloropropane	11.5	2.0	µg/L	10.0		115	70-130	3.62	25		
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.9	1.0	µg/L	10.0		109	70-130	2.42	25		
1,2,4-Trimethylbenzene	10.6	1.0	µg/L	10.0		106	70-130	1.81	25		
1,3,5-Trimethylbenzene	10.9	1.0	µg/L	10.0		109	70-130	0.0916	25		
Vinyl Chloride	9.84	2.0	µg/L	10.0		98.4	40-160	1.01	25		†
m+p Xylene	22.7	2.0	µg/L	20.0		113	70-130	1.78	25		
o-Xylene	11.2	1.0	µg/L	10.0		112	70-130	0.800	25		
Surrogate: 1,2-Dichloroethane-d4	*25.2*		µg/L	25.0		101	70-130				
Surrogate: Toluene-d8	*26.2*		µg/L	25.0		105	70-130				
Surrogate: 4-Bromofluorobenzene	*25.4*		µg/L	25.0		102	70-130				

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132687 - SW-846 3546										
Blank (B132687-BLK1)				Prepared: 10/12/15 Analyzed: 10/13/15						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
n-Decane	ND	0.10	mg/Kg wet							
n-Docosane	ND	0.10	mg/Kg wet							
n-Dodecane	ND	0.10	mg/Kg wet							
n-Eicosane	ND	0.10	mg/Kg wet							
n-Hexacosane	ND	0.10	mg/Kg wet							
n-Hexadecane	ND	0.10	mg/Kg wet							
n-Hexatriacontane	ND	0.10	mg/Kg wet							
n-Nonadecane	ND	0.10	mg/Kg wet							
n-Nonane	ND	0.10	mg/Kg wet							
n-Octacosane	ND	0.10	mg/Kg wet							
n-Octadecane	ND	0.10	mg/Kg wet							
n-Tetracosane	ND	0.10	mg/Kg wet							
n-Tetradecane	ND	0.10	mg/Kg wet							
n-Triacontane	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.24*		mg/Kg wet	5.00		64.8	40-140			
Surrogate: o-Terphenyl (OTP)	*3.66*		mg/Kg wet	5.00		73.2	40-140			
Surrogate: 2-Bromonaphthalene	*4.74*		mg/Kg wet	5.00		94.8	40-140			
Surrogate: 2-Fluorobiphenyl	*4.86*		mg/Kg wet	5.00		97.2	40-140			
LCS (B132687-BS1)				Prepared: 10/12/15 Analyzed: 10/13/15						
Acenaphthene	3.57	0.10	mg/Kg wet	5.00		71.4	40-140			
Acenaphthylene	3.44	0.10	mg/Kg wet	5.00		68.9	40-140			
Anthracene	4.07	0.10	mg/Kg wet	5.00		81.4	40-140			
Benzo(a)anthracene	3.86	0.10	mg/Kg wet	5.00		77.2	40-140			
Benzo(a)pyrene	3.79	0.10	mg/Kg wet	5.00		75.7	40-140			
Benzo(b)fluoranthene	3.83	0.10	mg/Kg wet	5.00		76.6	40-140			
Benzo(g,h,i)perylene	4.00	0.10	mg/Kg wet	5.00		80.0	40-140			
Benzo(k)fluoranthene	3.73	0.10	mg/Kg wet	5.00		74.7	40-140			
Chrysene	3.85	0.10	mg/Kg wet	5.00		77.0	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132687 - SW-846 3546										
LCS (B132687-BS1)				Prepared: 10/12/15 Analyzed: 10/13/15						
Dibenz(a,h)anthracene	3.98	0.10	mg/Kg wet	5.00		79.5	40-140			
Fluoranthene	4.01	0.10	mg/Kg wet	5.00		80.2	40-140			
Fluorene	3.75	0.10	mg/Kg wet	5.00		75.0	40-140			
Indeno(1,2,3-cd)pyrene	3.95	0.10	mg/Kg wet	5.00		79.1	40-140			
2-Methylnaphthalene	3.37	0.10	mg/Kg wet	5.00		67.3	40-140			
Naphthalene	3.08	0.10	mg/Kg wet	5.00		61.7	40-140			
Phenanthrene	4.02	0.10	mg/Kg wet	5.00		80.4	40-140			
Pyrene	4.01	0.10	mg/Kg wet	5.00		80.2	40-140			
n-Decane	2.29	0.10	mg/Kg wet	5.00		45.8	40-140			
n-Docosane	3.32	0.10	mg/Kg wet	5.00		66.3	40-140			
n-Dodecane	2.64	0.10	mg/Kg wet	5.00		52.8	40-140			
n-Eicosane	3.44	0.10	mg/Kg wet	5.00		68.8	40-140			
n-Hexacosane	3.45	0.10	mg/Kg wet	5.00		69.1	40-140			
n-Hexadecane	3.34	0.10	mg/Kg wet	5.00		66.8	40-140			
n-Hexatriacontane	3.51	0.10	mg/Kg wet	5.00		70.3	40-140			
n-Nonadecane	3.45	0.10	mg/Kg wet	5.00		69.1	40-140			
n-Nonane	1.82	0.10	mg/Kg wet	5.00		36.4	30-140			
n-Octacosane	3.50	0.10	mg/Kg wet	5.00		70.0	40-140			
n-Octadecane	3.42	0.10	mg/Kg wet	5.00		68.4	40-140			
n-Tetracosane	3.72	0.10	mg/Kg wet	5.00		74.5	40-140			
n-Tetradecane	2.96	0.10	mg/Kg wet	5.00		59.1	40-140			
n-Triacontane	3.47	0.10	mg/Kg wet	5.00		69.4	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.20*		mg/Kg wet	5.00		64.0	40-140			
Surrogate: o-Terphenyl (OTP)	*3.69*		mg/Kg wet	5.00		73.8	40-140			
Surrogate: 2-Bromonaphthalene	*4.73*		mg/Kg wet	5.00		94.7	40-140			
Surrogate: 2-Fluorobiphenyl	*4.88*		mg/Kg wet	5.00		97.6	40-140			
LCS Dup (B132687-BSD1)				Prepared: 10/12/15 Analyzed: 10/13/15						
Acenaphthene	3.78	0.10	mg/Kg wet	5.00		75.7	40-140	5.84	25	
Acenaphthylene	3.71	0.10	mg/Kg wet	5.00		74.2	40-140	7.44	25	
Anthracene	3.89	0.10	mg/Kg wet	5.00		77.8	40-140	4.59	25	
Benzo(a)anthracene	3.70	0.10	mg/Kg wet	5.00		73.9	40-140	4.35	25	
Benzo(a)pyrene	3.65	0.10	mg/Kg wet	5.00		72.9	40-140	3.72	25	
Benzo(b)fluoranthene	3.67	0.10	mg/Kg wet	5.00		73.4	40-140	4.34	25	
Benzo(g,h,i)perylene	3.93	0.10	mg/Kg wet	5.00		78.5	40-140	1.92	25	
Benzo(k)fluoranthene	3.60	0.10	mg/Kg wet	5.00		72.0	40-140	3.57	25	
Chrysene	3.71	0.10	mg/Kg wet	5.00		74.3	40-140	3.59	25	
Dibenz(a,h)anthracene	3.87	0.10	mg/Kg wet	5.00		77.5	40-140	2.57	25	
Fluoranthene	3.78	0.10	mg/Kg wet	5.00		75.7	40-140	5.81	25	
Fluorene	3.81	0.10	mg/Kg wet	5.00		76.2	40-140	1.56	25	
Indeno(1,2,3-cd)pyrene	3.78	0.10	mg/Kg wet	5.00		75.6	40-140	4.56	25	
2-Methylnaphthalene	3.75	0.10	mg/Kg wet	5.00		75.1	40-140	10.9	25	
Naphthalene	3.45	0.10	mg/Kg wet	5.00		69.0	40-140	11.3	25	
Phenanthrene	3.90	0.10	mg/Kg wet	5.00		78.1	40-140	2.85	25	
Pyrene	3.78	0.10	mg/Kg wet	5.00		75.7	40-140	5.78	25	
n-Decane	2.48	0.10	mg/Kg wet	5.00		49.6	40-140	8.04	25	
n-Docosane	3.07	0.10	mg/Kg wet	5.00		61.4	40-140	7.76	25	
n-Dodecane	2.95	0.10	mg/Kg wet	5.00		59.0	40-140	11.0	25	
n-Eicosane	3.20	0.10	mg/Kg wet	5.00		64.0	40-140	7.14	25	
n-Hexacosane	3.19	0.10	mg/Kg wet	5.00		63.8	40-140	7.87	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132687 - SW-846 3546										
LCS Dup (B132687-BSD1)				Prepared: 10/12/15 Analyzed: 10/13/15						
n-Hexadecane	3.26	0.10	mg/Kg wet	5.00		65.1	40-140	2.49	25	
n-Hexatriacontane	3.24	0.10	mg/Kg wet	5.00		64.8	40-140	8.13	25	
n-Nonadecane	3.22	0.10	mg/Kg wet	5.00		64.5	40-140	6.90	25	
n-Nonane	1.87	0.10	mg/Kg wet	5.00		37.5	30-140	2.86	25	
n-Octacosane	3.23	0.10	mg/Kg wet	5.00		64.6	40-140	8.06	25	
n-Octadecane	3.21	0.10	mg/Kg wet	5.00		64.1	40-140	6.39	25	
n-Tetracosane	3.45	0.10	mg/Kg wet	5.00		69.1	40-140	7.48	25	
n-Tetradecane	3.12	0.10	mg/Kg wet	5.00		62.4	40-140	5.49	25	
n-Triacontane	3.19	0.10	mg/Kg wet	5.00		63.8	40-140	8.46	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.90*		mg/Kg wet	5.00		58.1	40-140			
Surrogate: o-Terphenyl (OTP)	*3.39*		mg/Kg wet	5.00		67.8	40-140			
Surrogate: 2-Bromonaphthalene	*4.73*		mg/Kg wet	5.00		94.6	40-140			
Surrogate: 2-Fluorobiphenyl	*4.87*		mg/Kg wet	5.00		97.5	40-140			

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132733 - MA VPH										
Blank (B132733-BLK1)				Prepared: 10/12/15 Analyzed: 10/13/15						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*2.92*		mg/Kg wet	3.33		87.7	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*2.55*		mg/Kg wet	3.33		76.6	70-130			
LCS (B132733-BS1)				Prepared & Analyzed: 10/12/15						
Benzene	0.0870	0.0010	mg/Kg wet	0.100		87.0	70-130			
Butylcyclohexane	0.0863	0.0010	mg/Kg wet	0.100		86.3	70-130			
Decane	0.0962	0.0010	mg/Kg wet	0.100		96.2	70-130			
Ethylbenzene	0.0873	0.0010	mg/Kg wet	0.100		87.3	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0933	0.0010	mg/Kg wet	0.100		93.3	70-130			
2-Methylpentane	0.0944	0.0010	mg/Kg wet	0.100		94.4	70-130			
Naphthalene	0.111	0.0050	mg/Kg wet	0.100		111	70-130			
Nonane	0.0903	0.0010	mg/Kg wet	0.100		90.3	30-130			
Pentane	0.0962	0.0010	mg/Kg wet	0.100		96.2	70-130			
Toluene	0.0865	0.0010	mg/Kg wet	0.100		86.5	70-130			
1,2,4-Trimethylbenzene	0.0949	0.0010	mg/Kg wet	0.100		94.9	70-130			
2,2,4-Trimethylpentane	0.103	0.0010	mg/Kg wet	0.100		103	70-130			
m+p Xylene	0.177	0.0020	mg/Kg wet	0.200		88.5	70-130			
o-Xylene	0.0880	0.0010	mg/Kg wet	0.100		88.0	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*0.0398*		mg/Kg wet	0.0400		99.6	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0349*		mg/Kg wet	0.0400		87.2	70-130			
LCS Dup (B132733-BSD1)				Prepared & Analyzed: 10/12/15						
Benzene	0.0854	0.0010	mg/Kg wet	0.100		85.4	70-130	1.84	25	
Butylcyclohexane	0.0863	0.0010	mg/Kg wet	0.100		86.3	70-130	0.0695	25	
Decane	0.0956	0.0010	mg/Kg wet	0.100		95.6	70-130	0.540	25	
Ethylbenzene	0.0855	0.0010	mg/Kg wet	0.100		85.5	70-130	2.19	25	
Methyl tert-Butyl Ether (MTBE)	0.0922	0.0010	mg/Kg wet	0.100		92.2	70-130	1.09	25	
2-Methylpentane	0.0982	0.0010	mg/Kg wet	0.100		98.2	70-130	3.87	25	
Naphthalene	0.115	0.0050	mg/Kg wet	0.100		115	70-130	3.19	25	
Nonane	0.0905	0.0010	mg/Kg wet	0.100		90.5	30-130	0.246	25	
Pentane	0.0940	0.0010	mg/Kg wet	0.100		94.0	70-130	2.39	25	
Toluene	0.0846	0.0010	mg/Kg wet	0.100		84.6	70-130	2.28	25	
1,2,4-Trimethylbenzene	0.0927	0.0010	mg/Kg wet	0.100		92.7	70-130	2.32	25	

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QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B132733 - MA VPH										
LCS Dup (B132733-BSD1)				Prepared & Analyzed: 10/12/15						
2,2,4-Trimethylpentane	0.103	0.0010	mg/Kg wet	0.100		103	70-130	0.399	25	
m+p Xylene	0.173	0.0020	mg/Kg wet	0.200		86.6	70-130	2.19	25	
o-Xylene	0.0862	0.0010	mg/Kg wet	0.100		86.2	70-130	2.10	25	
Surrogate: 2,5-Dibromotoluene (FID)	*0.0366*		mg/Kg wet	0.0400		91.5	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*0.0347*		mg/Kg wet	0.0400		86.7	70-130			

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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-02	Laboratory fortified blank/laboratory control sample recovery and duplicate recoveries outside of control limits. Data validation is not affected since all results are "not detected" for associated samples in this batch and bias is on the high side.
L-04	Laboratory fortified blank/laboratory control sample recovery and duplicate recovery are outside of control limits. Reported value for this compound is likely to be biased on the low side.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
L-07A	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD outside of control limits. Reduced precision anticipated for any reported result for this compound.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
R-05	Laboratory fortified blank duplicate RPD is outside of control limits. Reduced precision is anticipated for any reported value for this compound.
RL-05	Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.
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.
V-20	Continuing calibration did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP-EPH-04-1.1 in Soil	
C9-C18 Aliphatics	CT,NC,WA,ME,NH-P
C19-C36 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,WA,ME,NH-P
C11-C22 Aromatics	CT,NC,WA,ME,NH-P
Acenaphthene	CT,NC,WA,ME,NH-P
Acenaphthylene	CT,NC,WA,ME,NH-P
Anthracene	CT,NC,WA,ME,NH-P
Benzo(a)anthracene	CT,NC,WA,ME,NH-P
Benzo(a)pyrene	CT,NC,WA,ME,NH-P
Benzo(b)fluoranthene	CT,NC,WA,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,WA,ME,NH-P
Benzo(k)fluoranthene	CT,NC,WA,ME,NH-P
Chrysene	CT,NC,WA,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,WA,ME,NH-P
Fluoranthene	CT,NC,WA,ME,NH-P
Fluorene	CT,NC,WA,ME
Indeno(1,2,3-cd)pyrene	CT,NC,WA,ME,NH-P
2-Methylnaphthalene	CT,NC,WA,ME
Naphthalene	CT,NC,WA,ME,NH-P
Phenanthrene	CT,NC,WA,ME,NH-P
Pyrene	CT,NC,WA,ME,NH-P
MADEP-VPH-04-1.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
C5-C8 Aliphatics	CT,NC,WA,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C12 Aliphatics	CT,NC,WA,ME,NH-P
C9-C10 Aromatics	CT,NC,WA,ME,NH-P
Benzene	CT,NC,WA,ME,NH-P
Ethylbenzene	CT,NC,WA,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,WA,ME,NH-P
Naphthalene	CT,NC,WA,ME,NH-P
Toluene	CT,NC,WA,ME,NH-P
m+p Xylene	CT,NC,WA,ME,NH-P
o-Xylene	CT,NC,WA,ME,NH-P
SW-846 8260C in Soil	
Acetone	CT,NH,NY,ME,VA,NJ
Acrylonitrile	CT,NH,NY,ME,VA,NJ
Benzene	CT,NH,NY,ME,VA,NJ
Bromobenzene	NH,NY,ME,VA,NJ
Bromochloromethane	NH,NY,ME,VA,NJ
Bromodichloromethane	CT,NH,NY,ME,VA,NJ
Bromoform	CT,NH,NY,ME,VA,NJ
Bromomethane	CT,NH,NY,ME,VA,NJ
2-Butanone (MEK)	CT,NH,NY,ME,VA,NJ
n-Butylbenzene	CT,NH,NY,ME,VA,NJ
sec-Butylbenzene	CT,NH,NY,ME,VA,NJ

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
tert-Butylbenzene	CT,NH,NY,ME,VA,NJ
Carbon Disulfide	CT,NH,NY,ME,VA,NJ
Carbon Tetrachloride	CT,NH,NY,ME,VA,NJ
Chlorobenzene	CT,NH,NY,ME,VA,NJ
Chlorodibromomethane	CT,NH,NY,ME,VA,NJ
Chloroethane	CT,NH,NY,ME,VA,NJ
Chloroform	CT,NH,NY,ME,VA,NJ
Chloromethane	CT,NH,NY,ME,VA,NJ
2-Chlorotoluene	CT,NH,NY,ME,VA,NJ
4-Chlorotoluene	CT,NH,NY,ME,VA,NJ
Dibromomethane	NH,NY,ME,VA,NJ
1,2-Dichlorobenzene	CT,NH,NY,ME,VA,NJ
1,3-Dichlorobenzene	CT,NH,NY,ME,VA,NJ
1,4-Dichlorobenzene	CT,NH,NY,ME,VA,NJ
Dichlorodifluoromethane (Freon 12)	NY,ME,VA,NJ
1,1-Dichloroethane	CT,NH,NY,ME,VA,NJ
1,2-Dichloroethane	CT,NH,NY,ME,VA,NJ
1,1-Dichloroethylene	CT,NH,NY,ME,VA,NJ
cis-1,2-Dichloroethylene	CT,NH,NY,ME,VA,NJ
trans-1,2-Dichloroethylene	CT,NH,NY,ME,VA,NJ
1,2-Dichloropropane	CT,NH,NY,ME,VA,NJ
1,3-Dichloropropane	NH,NY,ME,VA,NJ
2,2-Dichloropropane	NH,NY,ME,VA,NJ
1,1-Dichloropropene	NH,NY,ME,VA,NJ
cis-1,3-Dichloropropene	CT,NH,NY,ME,VA,NJ
trans-1,3-Dichloropropene	CT,NH,NY,ME,VA,NJ
Ethylbenzene	CT,NH,NY,ME,VA,NJ
Hexachlorobutadiene	NH,NY,ME,VA,NJ
2-Hexanone (MBK)	CT,NH,NY,ME,VA,NJ
Isopropylbenzene (Cumene)	CT,NH,NY,ME,VA,NJ
p-Isopropyltoluene (p-Cymene)	NH,NY,NJ
Methyl tert-Butyl Ether (MTBE)	NY,VA,NJ
Methylene Chloride	CT,NH,NY,ME,VA,NJ
4-Methyl-2-pentanone (MIBK)	CT,NH,NY,VA,NJ
Naphthalene	NH,NY,ME,VA,NJ
n-Propylbenzene	NH,NY,NJ
Styrene	CT,NH,NY,ME,VA,NJ
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME,VA,NJ
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME,VA,NJ
Tetrachloroethylene	CT,NH,NY,ME,VA,NJ
Toluene	CT,NH,NY,ME,VA,NJ
1,2,4-Trichlorobenzene	NH,NY,ME,VA,NJ
1,1,1-Trichloroethane	CT,NH,NY,ME,VA,NJ
1,1,2-Trichloroethane	CT,NH,NY,ME,VA,NJ
Trichloroethylene	CT,NH,NY,ME,VA,NJ
Trichlorofluoromethane (Freon 11)	CT,NH,NY,VA,NJ
1,2,3-Trichloropropane	NH,NY,ME,VA,NJ

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Soil	
1,2,4-Trimethylbenzene	CT,NH,NY,ME,VA,NJ
1,3,5-Trimethylbenzene	CT,NH,NY,ME,VA,NJ
Vinyl Chloride	CT,NH,NY,ME,VA,NJ
m+p Xylene	CT,NH,NY,ME,VA
o-Xylene	CT,NH,NY,ME,VA
SW-846 8260C in Water	
Acetone	CT,NY,ME,NH,VA,NJ
Acrylonitrile	CT,NY,ME,NH,VA,NJ
tert-Amyl Methyl Ether (TAME)	NY,ME,NH,VA,NJ
Benzene	CT,NY,ME,NH,VA,NJ
Bromochloromethane	NY,ME,NH,VA,NJ
Bromodichloromethane	CT,NY,ME,NH,VA,NJ
Bromoform	CT,NY,ME,NH,VA,NJ
Bromomethane	CT,NY,ME,NH,VA,NJ
2-Butanone (MEK)	CT,NY,ME,NH,VA,NJ
tert-Butyl Alcohol (TBA)	NY,ME,NH,VA,NJ
n-Butylbenzene	NY,ME,VA,NJ
sec-Butylbenzene	NY,ME,VA,NJ
tert-Butylbenzene	NY,ME,VA,NJ
tert-Butyl Ethyl Ether (TBEE)	NY,ME,NH,VA,NJ
Carbon Disulfide	CT,NY,ME,NH,VA,NJ
Carbon Tetrachloride	CT,NY,ME,NH,VA,NJ
Chlorobenzene	CT,NY,ME,NH,VA,NJ
Chlorodibromomethane	CT,NY,ME,NH,VA,NJ
Chloroethane	CT,NY,ME,NH,VA,NJ
Chloroform	CT,NY,ME,NH,VA,NJ
Chloromethane	CT,NY,ME,NH,VA,NJ
2-Chlorotoluene	NY,ME,NH,VA,NJ
4-Chlorotoluene	NY,ME,NH,VA,NJ
Dibromomethane	NY,ME,NH,VA,NJ
1,2-Dichlorobenzene	CT,NY,ME,NH,VA,NJ
1,3-Dichlorobenzene	CT,NY,ME,NH,VA,NJ
1,4-Dichlorobenzene	CT,NY,ME,NH,VA,NJ
trans-1,4-Dichloro-2-butene	NY,ME,NH,VA,NJ
Dichlorodifluoromethane (Freon 12)	NY,ME,NH,VA,NJ
1,1-Dichloroethane	CT,NY,ME,NH,VA,NJ
1,2-Dichloroethane	CT,NY,ME,NH,VA,NJ
1,1-Dichloroethylene	CT,NY,ME,NH,VA,NJ
cis-1,2-Dichloroethylene	NY,ME,NJ
trans-1,2-Dichloroethylene	CT,NY,ME,NH,VA,NJ
1,2-Dichloropropane	CT,NY,ME,NH,VA,NJ
1,3-Dichloropropane	NY,ME,VA,NJ
2,2-Dichloropropane	NY,ME,NH,VA,NJ
1,1-Dichloropropene	NY,ME,NH,VA,NJ
cis-1,3-Dichloropropene	CT,NY,ME,NH,VA,NJ
trans-1,3-Dichloropropene	CT,NY,ME,NH,VA,NJ

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C in Water	
Diisopropyl Ether (DIPE)	NY,ME,NH,VA,NJ
Ethylbenzene	CT,NY,ME,NH,VA,NJ
Hexachlorobutadiene	CT,NY,ME,NH,VA,NJ
2-Hexanone (MBK)	CT,NY,ME,NH,VA,NJ
Isopropylbenzene (Cumene)	NY,ME,VA,NJ
p-Isopropyltoluene (p-Cymene)	CT,NY,ME,NH,VA,NJ
Methyl tert-Butyl Ether (MTBE)	CT,NY,ME,NH,VA,NJ
Methylene Chloride	CT,NY,ME,NH,VA,NJ
4-Methyl-2-pentanone (MIBK)	CT,NY,ME,NH,VA,NJ
Naphthalene	NY,ME,NH,VA,NJ
n-Propylbenzene	CT,NY,ME,NH,VA,NJ
Styrene	CT,NY,ME,NH,VA,NJ
1,1,1,2-Tetrachloroethane	CT,NY,ME,NH,VA,NJ
1,1,2,2-Tetrachloroethane	CT,NY,ME,NH,VA,NJ
Tetrachloroethylene	CT,NY,ME,NH,VA,NJ
Toluene	CT,NY,ME,NH,VA,NJ
1,2,3-Trichlorobenzene	NY,ME,NH,VA,NJ
1,2,4-Trichlorobenzene	CT,NY,ME,NH,VA,NJ
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,NY,ME,NH,VA,NJ
1,1,2-Trichloroethane	CT,NY,ME,NH,VA,NJ
Trichloroethylene	CT,NY,ME,NH,VA,NJ
Trichlorofluoromethane (Freon 11)	CT,NY,ME,NH,VA,NJ
1,2,3-Trichloropropane	NY,ME,NH,VA,NJ
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	NY,VA,NJ
1,2,4-Trimethylbenzene	NY,ME,VA,NJ
1,3,5-Trimethylbenzene	NY,ME,VA,NJ
Vinyl Chloride	CT,NY,ME,NH,VA,NJ
m+p Xylene	CT,NY,ME,NH,VA
o-Xylene	CT,NY,ME,NH,VA

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The CON-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	10/30/2015
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

con-test® ANALYTICAL LABORATORY

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Fax: 413-525-6405
Email: info@contestlabs.com
www.contestlabs.com

CHAIN OF CUSTODY RECORD

15J0496

Rev 04.05.12

39 Spruce Street
East longmeadow, MA 01028

Company Name: MAI Environmental
Address: 1034 Broadway
So. Portland ME 04106
Attention:
Project Location: ~~ME DEP Dry Cleaner~~ PSI Suds UP Portland
Sampled By:

Telephone: 207 767 3663
Project # 1079
Client PO# Suds UP Portland

DATA DELIVERY (check all that apply)
○ FAX ○ EMAIL ○ WEBSITE
Fax #
Email:
Format: ○ PDF ○ EXCEL ○ GIS
○ OTHER
○ "Enhanced Data Package"

Project Proposal Provided? (for billing purposes)
✓ yes _____ proposal date

ANALYSIS REQUESTED

Con-Test Lab ID (laboratory use only)	Client Sample ID / Description	Collection Date/Time	Collection Date/Time	Composite	Grab	*Matrix Code	Conc Code	VOCs 8260	VPH	EPH										# of Containers / ** Preservation / ***Container Code
01	B2 (8.5-10')	10/8/15	445pm		✓	S	M	X	X	X										
02	MW-1	10/8/15	1:00pm		✓	GW	L	X												

Comments: ME EDD Required

Please use the following codes to let Con-Test know if a specific sample may be high in concentration in Matrix/Conc. Code Box:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Dissolved Metals
○ Field Filtered
○ Lab to Filter

***Cont. Code:**
A=amber glass
G=glass
P=plastic
ST=sterile
V= vial
S=summa can
T=tedlar bag
O=Other

**Preservation
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium bisulfate
X = Na hydroxide
T = Na thiosulfate
O = Other _____

*Matrix Code:
GW= groundwater
WW= wastewater
DW= drinking water
A = air
S = soil/solid
SL = sludge
O = other _____

Relinquished by: (signature)	Date/Time:
[signature]	10/9/15 10Am
Received by: (signature) 5.8°C	Date/Time:
[signature] 10/10/15	932
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Turnaround ††
☐ 7-Day
☐ 10-Day
☐ Other _____
Standard **RUSH** †
☐ †24-Hr ☐ †48-Hr
☐ †72-Hr ☐ †4-Day
† Require lab approval

Detection Limit Requirements
Massachusetts:
Connecticut:
Other: MAINE

Is your project MCP or RCP ?
○ MCP Form Required
○ RCP Form Required
○ MA State DW Form Required PWSID # _____

NELAC & AIHA-LAP, LLC Accredited
WBE/DBE Certified

TURNAROUND TIME STARTS AT 9:00 A.M. THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON YOUR CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME WILL NOT START UNTIL ALL QUESTIONS ARE ANSWERED BY OUR CLIENT.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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FedEx Ship Track Manage Learn FedEx Office ® Login

IMPORTANT!
Flooding is causing hazardous conditions in South Carolina. Learn More

FedEx ® Tracking

809261077730

Ship date :
Fri 10/09/2015

SPO US

Delivered

Signed for by: R.FAUST

Actual delivery :
Sat 10/10/2015 9:32 am

MA US

Travel History

Date/Time	Activity	Location
10/10/2015 - Saturday		
9:32 am	Delivered	MA
8:16 am	On FedEx vehicle for delivery	WINDSOR LOCKS, CT
8:08 am	At local FedEx facility	WINDSOR LOCKS, CT
7:01 am	At destination sort facility	EAST GRANBY, CT
3:46 am	Departed FedEx location	MEMPHIS, TN
1:33 am	Arrived at FedEx location	MEMPHIS, TN
10/09/2015 - Friday		
8:07 pm	Left FedEx origin facility	PORTLAND, ME
9:59 am	Picked up	PORTLAND, ME

Shipment Facts

Tracking number	809261077730	**Service**	FedEx Priority Overnight
Weight	9 lbs / 4.08 kgs	**Dimensions**	11x13x10 in.
Delivered To	Shipping/Receiving	**Total pieces**	1
Total shipment weight	9 lbs / 4.08 kgs	**Packaging**	Your Packaging
Special handling section	For Saturday Delivery		

FedEx

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FedEx SupplyChain
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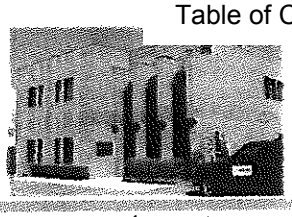

Sample Receipt Checklist

CLIENT NAME: MAI **RECEIVED BY:** RLF **DATE:** 10/10/15

1) **Was the chain(s) of custody relinquished and signed?** (Yes) No **No CoC Included**
2) **Does the chain agree with the samples?** (Yes) No
   If not, explain:
3) **Are all the samples in good condition?** (Yes) No
   If not, explain:
4) **How were the samples received:**
   On Ice ☑ Direct from Sampling ☐ Ambient ☐ In Cooler(s) ☑
   Were the samples received in Temperature Compliance of (2-6°C)? (Yes) No N/A
   Temperature °C by Temp blank _____ Temperature °C by Temp gun 5.8°C
5) **Are there Dissolved samples for the lab to filter?** Yes (No)
   Who was notified _____ Date _____ Time _____
6) **Are there any RUSH or SHORT HOLDING TIME samples?** Yes (No)
   Who was notified _____ Date _____ Time _____
7) **Location where samples are stored:** —

   Permission to subcontract samples? Yes No
   (Walk-in clients only) if not already approved
   Client Signature: _____
8) **Do all samples have the proper Acid pH:** Yes No (N/A) _____
9) **Do all samples have the proper Base pH:** Yes No (N/A) _____
10) **Was the PC notified of any discrepancies with the CoC vs the samples:** Yes No (N/A)

Containers received at Con-Test

	# of containers		# of containers
1 Liter Amber		8 oz amber/clear jar	
500 mL Amber		4 oz amber/clear jar	1
250 mL Amber (8oz amber)		2 oz amber/clear jar	1
1 Liter Plastic		Plastic Bag / Ziploc	
500 mL Plastic		SOC Kit	
250 mL plastic		Non-ConTest Container	
40 mL Vial - type listed below	7	Perchlorate Kit	
Colisure / bacteria bottle		Flashpoint bottle	
Dissolved Oxygen bottle		Other glass jar	
Encore		Other	

Laboratory Comments:

40 mL vials: # HCl 3 # Methanol 2
Bisulfate 2 # DI Water _____
Thiosulfate _____ Unpreserved _____

Time and Date Frozen:

Doc# 277
Rev. 4 August 2013

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/False) T/F/NA	Comment
1) The cooler's custody seal, if present, is intact.	T	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	T	
4) Cooler Temperature is acceptable.	T	
5) Cooler Temperature is recorded.	T	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) There are no discrepancies between the sample IDs on the container and the COC.	T	
10) Samples are received within Holding Time.	T	
11) Sample containers have legible labels.	T	
12) Containers are not broken or leaking.	T	
13) Air Cassettes are not broken/open.	NA	
14) Sample collection date/times are provided.	T	
15) Appropriate sample containers are used.	T	
16) Proper collection media used.	T	
17) No headspace sample bottles are completely filled.	T	
18) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
19) Trip blanks provided if applicable.	NA	
20) VOA sample vials do not have head space or bubble is <6mm (1/4") in diameter.	T	
21) Samples do not require splitting or compositing.	T	

Who notified of False statements? **Date/Time:**

Doc #277 Rev. 4 August 2013 **Log-In Technician Initials:** RLF **Date/Time:** 10/10/15 932

APPENDIX D

Laboratory Reports – Soil Gas/Subslab and Indoor Air

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

October 28, 2015

John Marchewka
MAI Environmental
1034 Broadway
South Portland, ME 04106

Project Location: Portland, ME
Client Job Number:
Project Number: 1079
Laboratory Work Order Number: 15J0946

Enclosed are results of analyses for samples received by the laboratory on October 19, 2015. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Aaron L. Benoit
Project Manager

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

MAI Environmental
1034 Broadway
South Portland, ME 04106
ATTN: John Marchewka

REPORT DATE: 10/28/2015

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 1079

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 15J0946

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: Portland, ME

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
IA-1	15J0946-01	Indoor air		EPA TO-15	
IA-2	15J0946-02	Indoor air		EPA TO-15	
SS-1	15J0946-03	Sub Slab		EPA TO-15	
				MADEP APH rev 1	
SG-1	15J0946-04	Soil Gas		EPA TO-15	
SG-2	15J0946-05	Soil Gas		EPA TO-15	
SG-3	15J0946-06	Soil Gas		EPA TO-15	
SG-4	15J0946-07	Soil Gas		EPA TO-15	

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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:

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:

1,2,4-Trichlorobenzene
15J0946-01[IA-1], 15J0946-02[IA-2], 15J0946-03[SS-1], 15J0946-04[SG-1], 15J0946-05[SG-2], 15J0946-06[SG-3], 15J0946-07[SG-4], B133951-BLK1, B133951-BS1

1,2-Dichloro-1,1,2,2-tetrafluoroeth:
15J0946-01[IA-1], 15J0946-02[IA-2], 15J0946-03[SS-1], 15J0946-04[SG-1], 15J0946-05[SG-2], 15J0946-06[SG-3], 15J0946-07[SG-4], B133951-BLK1, B133951-BS1

Chloroethane
15J0946-01[IA-1], 15J0946-02[IA-2], 15J0946-03[SS-1], 15J0946-04[SG-1], 15J0946-05[SG-2], 15J0946-06[SG-3], 15J0946-07[SG-4], B133951-BLK1, B133951-BS1

Chloromethane
15J0946-01[IA-1], 15J0946-02[IA-2], 15J0946-03[SS-1], 15J0946-04[SG-1], 15J0946-05[SG-2], 15J0946-06[SG-3], 15J0946-07[SG-4], B133951-BLK1, B133951-BS1

Vinyl Chloride
15J0946-01[IA-1], 15J0946-02[IA-2], 15J0946-03[SS-1], 15J0946-04[SG-1], 15J0946-05[SG-2], 15J0946-06[SG-3], 15J0946-07[SG-4], B133951-BLK1, B133951-BS1

MADEP APH rev 1

Qualifications:

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:

C9-C10 Aromatics
15J0946-03[SS-1]

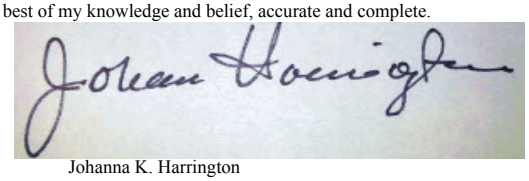
C9-C10 Aromatics (µg/m³)
S009841-CCV2

MADEP APH rev 1

No significant modifications were made to the APH method.

All performance/acceptance standards for required QA/QC procedures were achieved unless otherwise indicated in this case narrative.

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

con-test® ANALYTICAL LABORATORY

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: IA-1
Sample ID: 15J0946-01
Sample Matrix: Indoor air
Sampled: 10/9/2015 09:05

Sample Description/Location:
Sub Description/Location:
Canister ID: 2023
Canister Size: 6 liter
Flow Controller ID: 3055
Sample Type: 24 hr

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -7.2
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.035		ND	0.18	0.702	10/22/15 3:46	CMR
Bromodichloromethane	ND	0.035		ND	0.24	0.702	10/22/15 3:46	CMR
Carbon Tetrachloride	0.046	0.035		0.29	0.22	0.702	10/22/15 3:46	CMR
Chlorobenzene	ND	0.035		ND	0.16	0.702	10/22/15 3:46	CMR
Chloroethane	ND	0.035	V-05	ND	0.093	0.702	10/22/15 3:46	CMR
Chloroform	ND	0.035		ND	0.17	0.702	10/22/15 3:46	CMR
Chloromethane	0.29	0.070	V-05	0.60	0.14	0.702	10/22/15 3:46	CMR
Dibromochloromethane	ND	0.035		ND	0.30	0.702	10/22/15 3:46	CMR
1,2-Dibromoethane (EDB)	ND	0.035		ND	0.27	0.702	10/22/15 3:46	CMR
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 3:46	CMR
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 3:46	CMR
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 3:46	CMR
Dichlorodifluoromethane (Freon 12)	0.28	0.035		1.4	0.17	0.702	10/22/15 3:46	CMR
1,1-Dichloroethane	ND	0.035		ND	0.14	0.702	10/22/15 3:46	CMR
1,2-Dichloroethane	ND	0.035		ND	0.14	0.702	10/22/15 3:46	CMR
1,1-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 3:46	CMR
cis-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 3:46	CMR
trans-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 3:46	CMR
1,2-Dichloropropane	ND	0.035		ND	0.16	0.702	10/22/15 3:46	CMR
cis-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	10/22/15 3:46	CMR
trans-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	10/22/15 3:46	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	V-05	ND	0.25	0.702	10/22/15 3:46	CMR
Hexachlorobutadiene	ND	0.035		ND	0.37	0.702	10/22/15 3:46	CMR
Methylene Chloride	ND	0.35		ND	1.2	0.702	10/22/15 3:46	CMR
1,1,2,2-Tetrachloroethane	ND	0.035		ND	0.24	0.702	10/22/15 3:46	CMR
Tetrachloroethylene	0.039	0.035		0.27	0.24	0.702	10/22/15 3:46	CMR
1,2,4-Trichlorobenzene	ND	0.035	V-05	ND	0.26	0.702	10/22/15 3:46	CMR
1,1,1-Trichloroethane	ND	0.035		ND	0.19	0.702	10/22/15 3:46	CMR
1,1,2-Trichloroethane	ND	0.035		ND	0.19	0.702	10/22/15 3:46	CMR
Trichloroethylene	ND	0.035		ND	0.19	0.702	10/22/15 3:46	CMR
Trichlorofluoromethane (Freon 11)	0.19	0.14		1.1	0.79	0.702	10/22/15 3:46	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14		ND	1.1	0.702	10/22/15 3:46	CMR
Vinyl Chloride	ND	0.035	V-05	ND	0.090	0.702	10/22/15 3:46	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	97.8	70-130	10/22/15 3:46

con-test® ANALYTICAL LABORATORY
39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: IA-1
Sample ID: 15J0946-01
Sample Matrix: Indoor air
Sampled: 10/9/2015 09:05

Sample Description/Location:
Sub Description/Location:
Canister ID: 2023
Canister Size: 6 liter
Flow Controller ID: 3055
Sample Type: 24 hr

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -7.2
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: IA-2
Sample ID: 15J0946-02
Sample Matrix: Indoor air
Sampled: 10/9/2015 10:48

Sample Description/Location:
Sub Description/Location:
Canister ID: 2212
Canister Size: 6 liter
Flow Controller ID: 3056
Sample Type: 24 hr

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -9
Receipt Vacuum(in Hg): -7.8
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.035		ND	0.18	0.702	10/22/15 4:32	CMR
Bromodichloromethane	ND	0.035		ND	0.24	0.702	10/22/15 4:32	CMR
Carbon Tetrachloride	0.065	0.035		0.41	0.22	0.702	10/22/15 4:32	CMR
Chlorobenzene	ND	0.035		ND	0.16	0.702	10/22/15 4:32	CMR
Chloroethane	ND	0.035	V-05	ND	0.093	0.702	10/22/15 4:32	CMR
Chloroform	0.20	0.035		0.98	0.17	0.702	10/22/15 4:32	CMR
Chloromethane	0.39	0.070	V-05	0.81	0.14	0.702	10/22/15 4:32	CMR
Dibromochloromethane	ND	0.035		ND	0.30	0.702	10/22/15 4:32	CMR
1,2-Dibromoethane (EDB)	ND	0.035		ND	0.27	0.702	10/22/15 4:32	CMR
1,2-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 4:32	CMR
1,3-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 4:32	CMR
1,4-Dichlorobenzene	ND	0.035		ND	0.21	0.702	10/22/15 4:32	CMR
Dichlorodifluoromethane (Freon 12)	0.31	0.035		1.6	0.17	0.702	10/22/15 4:32	CMR
1,1-Dichloroethane	ND	0.035		ND	0.14	0.702	10/22/15 4:32	CMR
1,2-Dichloroethane	ND	0.035		ND	0.14	0.702	10/22/15 4:32	CMR
1,1-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 4:32	CMR
cis-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 4:32	CMR
trans-1,2-Dichloroethylene	ND	0.035		ND	0.14	0.702	10/22/15 4:32	CMR
1,2-Dichloropropane	ND	0.035		ND	0.16	0.702	10/22/15 4:32	CMR
cis-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	10/22/15 4:32	CMR
trans-1,3-Dichloropropene	ND	0.035		ND	0.16	0.702	10/22/15 4:32	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.035	V-05	ND	0.25	0.702	10/22/15 4:32	CMR
Hexachlorobutadiene	ND	0.035		ND	0.37	0.702	10/22/15 4:32	CMR
Methylene Chloride	ND	0.35		ND	1.2	0.702	10/22/15 4:32	CMR
1,1,2,2-Tetrachloroethane	ND	0.035		ND	0.24	0.702	10/22/15 4:32	CMR
Tetrachloroethylene	0.10	0.035		0.71	0.24	0.702	10/22/15 4:32	CMR
1,2,4-Trichlorobenzene	ND	0.035	V-05	ND	0.26	0.702	10/22/15 4:32	CMR
1,1,1-Trichloroethane	ND	0.035		ND	0.19	0.702	10/22/15 4:32	CMR
1,1,2-Trichloroethane	ND	0.035		ND	0.19	0.702	10/22/15 4:32	CMR
Trichloroethylene	ND	0.035		ND	0.19	0.702	10/22/15 4:32	CMR
Trichlorofluoromethane (Freon 11)	0.37	0.14		2.1	0.79	0.702	10/22/15 4:32	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14		ND	1.1	0.702	10/22/15 4:32	CMR
Vinyl Chloride	ND	0.035	V-05	ND	0.090	0.702	10/22/15 4:32	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	98.8	70-130	10/22/15 4:32

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: IA-2
Sample ID: 15J0946-02
Sample Matrix: Indoor air
Sampled: 10/9/2015 10:48

Sample Description/Location:
Sub Description/Location:
Canister ID: 2212
Canister Size: 6 liter
Flow Controller ID: 3056
Sample Type: 24 hr

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -9
Receipt Vacuum(in Hg): -7.8
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SS-1
Sample ID: 15J0946-03
Sample Matrix: Sub Slab
Sampled: 10/9/2015 10:48

Sample Description/Location:
Sub Description/Location:
Canister ID: 1511
Canister Size: 3 liter
Flow Controller ID: 4079
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -4
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**
Benzyl chloride	ND	0.10		ND	0.52	2	10/22/15 5:11	CMR
Bromodichloromethane	0.10	0.10		0.70	0.67	2	10/22/15 5:11	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	10/22/15 5:11	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	10/22/15 5:11	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	10/22/15 5:11	CMR
Chloroform	0.22	0.10		1.1	0.49	2	10/22/15 5:11	CMR
Chloromethane	0.22	0.20	V-05	0.45	0.41	2	10/22/15 5:11	CMR
Dibromochloromethane	ND	0.10		ND	0.85	2	10/22/15 5:11	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	10/22/15 5:11	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:11	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:11	CMR
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:11	CMR
Dichlorodifluoromethane (Freon 12)	5.1	0.10		25	0.49	2	10/22/15 5:11	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 5:11	CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 5:11	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 5:11	CMR
cis-1,2-Dichloroethylene	0.59	0.10		2.3	0.40	2	10/22/15 5:11	CMR
trans-1,2-Dichloroethylene	0.15	0.10		0.61	0.40	2	10/22/15 5:11	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	10/22/15 5:11	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 5:11	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 5:11	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	V-05	ND	0.70	2	10/22/15 5:11	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	10/22/15 5:11	CMR
Methylene Chloride	ND	1.0		ND	3.5	2	10/22/15 5:11	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	10/22/15 5:11	CMR
Tetrachloroethylene	600	1.0		4100	6.8	20	10/27/15 7:19	CMR
1,2,4-Trichlorobenzene	ND	0.10	V-05	ND	0.74	2	10/22/15 5:11	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 5:11	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 5:11	CMR
Trichloroethylene	13	0.10		69	0.54	2	10/22/15 5:11	CMR
Trichlorofluoromethane (Freon 11)	1.8	0.40		10	2.2	2	10/22/15 5:11	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1.1	0.40		8.3	3.1	2	10/22/15 5:11	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	10/22/15 5:11	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	10/22/15 5:11
4-Bromofluorobenzene (1)	97.7	70-130	10/27/15 7:19

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SS-1
Sample ID: 15J0946-03
Sample Matrix: Sub Slab
Sampled: 10/9/2015 10:48

Sample Description/Location:
Sub Description/Location:
Canister ID: 1511
Canister Size: 3 liter
Flow Controller ID: 4079
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SS-1
Sample ID: 15J0946-03
Sample Matrix: Sub Slab
Sampled: 10/9/2015 10:48

Sample Description/Location:
Sub Description/Location:
Canister ID: 1511
Canister Size: 3 liter
Flow Controller ID: 4079
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -4
Receipt Vacuum(in Hg): -4
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

MADEP APH rev 1

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzene	0.44	0.38		1.4	1.2	2	10/22/15 5:11	TPH
1,3-Butadiene	ND	0.38		ND	0.83	2	10/22/15 5:11	TPH
Ethylbenzene	ND	0.38		ND	1.6	2	10/22/15 5:11	TPH
Methyl tert-Butyl Ether (MTBE)	ND	0.38		ND	1.4	2	10/22/15 5:11	TPH
Toluene	1.1	0.38		4.1	1.4	2	10/22/15 5:11	TPH
Naphthalene	ND	0.33		ND	1.8	2	10/22/15 5:11	TPH
m&p-Xylene	0.77	0.38		3.3	1.6	2	10/22/15 5:11	TPH
o-Xylene	0.38	0.38		1.7	1.6	2	10/22/15 5:11	TPH
C5-C8 Aliphatics				2100	17	2	10/22/15 5:11	TPH
C9-C10 Aromatics			V-05	ND	19	2	10/22/15 5:11	TPH
C9-C12 Aliphatics				4600	27	2	10/22/15 5:11	TPH

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (4)	111	70-130	10/22/15 5:11

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-1
Sample ID: 15J0946-04
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:22

Sample Description/Location:
Sub Description/Location:
Canister ID: 2078
Canister Size: 3 liter
Flow Controller ID: 4296
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -2.5
Receipt Vacuum(in Hg): -2.5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.10		ND	0.52	2	10/22/15 5:50	CMR
Bromodichloromethane	ND	0.10		ND	0.67	2	10/22/15 5:50	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	10/22/15 5:50	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	10/22/15 5:50	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	10/22/15 5:50	CMR
Chloroform	0.16	0.10		0.77	0.49	2	10/22/15 5:50	CMR
Chloromethane	ND	0.20	V-05	ND	0.41	2	10/22/15 5:50	CMR
Dibromochloromethane	ND	0.10		ND	0.85	2	10/22/15 5:50	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	10/22/15 5:50	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:50	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:50	CMR
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 5:50	CMR
Dichlorodifluoromethane (Freon 12)	0.45	0.10		2.2	0.49	2	10/22/15 5:50	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 5:50	CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 5:50	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 5:50	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 5:50	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 5:50	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	10/22/15 5:50	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 5:50	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 5:50	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	V-05	ND	0.70	2	10/22/15 5:50	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	10/22/15 5:50	CMR
Methylene Chloride	ND	1.0		ND	3.5	2	10/22/15 5:50	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	10/22/15 5:50	CMR
Tetrachloroethylene	0.62	0.10		4.2	0.68	2	10/22/15 5:50	CMR
1,2,4-Trichlorobenzene	ND	0.10	V-05	ND	0.74	2	10/22/15 5:50	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 5:50	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 5:50	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	10/22/15 5:50	CMR
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	10/22/15 5:50	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	10/22/15 5:50	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	10/22/15 5:50	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	10/22/15 5:50

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-1
Sample ID: 15J0946-04
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:22

Sample Description/Location:
Sub Description/Location:
Canister ID: 2078
Canister Size: 3 liter
Flow Controller ID: 4296
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -30
Final Vacuum(in Hg): -2.5
Receipt Vacuum(in Hg): -2.5
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-2
Sample ID: 15J0946-05
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:27

Sample Description/Location:
Sub Description/Location:
Canister ID: 2052
Canister Size: 3 liter
Flow Controller ID: 4297
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -3
Receipt Vacuum(in Hg): -1.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.10		ND	0.52	2	10/22/15 6:28	CMR
Bromodichloromethane	ND	0.10		ND	0.67	2	10/22/15 6:28	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	10/22/15 6:28	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	10/22/15 6:28	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	10/22/15 6:28	CMR
Chloroform	ND	0.10		ND	0.49	2	10/22/15 6:28	CMR
Chloromethane	ND	0.20	V-05	ND	0.41	2	10/22/15 6:28	CMR
Dibromochloromethane	ND	0.10		ND	0.85	2	10/22/15 6:28	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	10/22/15 6:28	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 6:28	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 6:28	CMR
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 6:28	CMR
Dichlorodifluoromethane (Freon 12)	54	0.10		270	0.49	2	10/22/15 6:28	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 6:28	CMR
1,2-Dichloroethane	0.48	0.10		1.9	0.40	2	10/22/15 6:28	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 6:28	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 6:28	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 6:28	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	10/22/15 6:28	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 6:28	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 6:28	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	V-05	ND	0.70	2	10/22/15 6:28	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	10/22/15 6:28	CMR
Methylene Chloride	1.6	1.0		5.7	3.5	2	10/22/15 6:28	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	10/22/15 6:28	CMR
Tetrachloroethylene	0.39	0.10		2.6	0.68	2	10/22/15 6:28	CMR
1,2,4-Trichlorobenzene	ND	0.10	V-05	ND	0.74	2	10/22/15 6:28	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 6:28	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 6:28	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	10/22/15 6:28	CMR
Trichlorofluoromethane (Freon 11)	0.95	0.40		5.3	2.2	2	10/22/15 6:28	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	10/22/15 6:28	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	10/22/15 6:28	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	104	70-130	10/22/15 6:28

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-2
Sample ID: 15J0946-05
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:27

Sample Description/Location:
Sub Description/Location:
Canister ID: 2052
Canister Size: 3 liter
Flow Controller ID: 4297
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -3
Receipt Vacuum(in Hg): -1.3
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-3
Sample ID: 15J0946-06
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:54

Sample Description/Location:
Sub Description/Location:
Canister ID: 2087
Canister Size: 3 liter
Flow Controller ID: 4086
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.10		ND	0.52	2	10/22/15 7:07	CMR
Bromodichloromethane	ND	0.10		ND	0.67	2	10/22/15 7:07	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	10/22/15 7:07	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	10/22/15 7:07	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	10/22/15 7:07	CMR
Chloroform	ND	0.10		ND	0.49	2	10/22/15 7:07	CMR
Chloromethane	ND	0.20	V-05	ND	0.41	2	10/22/15 7:07	CMR
Dibromochloromethane	ND	0.10		ND	0.85	2	10/22/15 7:07	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	10/22/15 7:07	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:07	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:07	CMR
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:07	CMR
Dichlorodifluoromethane (Freon 12)	4.3	0.10		21	0.49	2	10/22/15 7:07	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 7:07	CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 7:07	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:07	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:07	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:07	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	10/22/15 7:07	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 7:07	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 7:07	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	V-05	ND	0.70	2	10/22/15 7:07	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	10/22/15 7:07	CMR
Methylene Chloride	ND	1.0		ND	3.5	2	10/22/15 7:07	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	10/22/15 7:07	CMR
Tetrachloroethylene	2.9	0.10		19	0.68	2	10/22/15 7:07	CMR
1,2,4-Trichlorobenzene	ND	0.10	V-05	ND	0.74	2	10/22/15 7:07	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 7:07	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 7:07	CMR
Trichloroethylene	0.11	0.10		0.61	0.54	2	10/22/15 7:07	CMR
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	10/22/15 7:07	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	10/22/15 7:07	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	10/22/15 7:07	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	101	70-130	10/22/15 7:07

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-3
Sample ID: 15J0946-06
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:54

Sample Description/Location:
Sub Description/Location:
Canister ID: 2087
Canister Size: 3 liter
Flow Controller ID: 4086
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -6
Receipt Vacuum(in Hg): -6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-4
Sample ID: 15J0946-07
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:59

Sample Description/Location:
Sub Description/Location:
Canister ID: 1645
Canister Size: 3 liter
Flow Controller ID: 4080
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

EPA TO-15

Analyte	ppbv Results	ppbv RL	Flag/Qual	ug/m3 Results	ug/m3 RL	Dilution	Date/Time Analyzed	Analyst
Benzyl chloride	ND	0.10		ND	0.52	2	10/22/15 7:45	CMR
Bromodichloromethane	ND	0.10		ND	0.67	2	10/22/15 7:45	CMR
Carbon Tetrachloride	ND	0.10		ND	0.63	2	10/22/15 7:45	CMR
Chlorobenzene	ND	0.10		ND	0.46	2	10/22/15 7:45	CMR
Chloroethane	ND	0.10	V-05	ND	0.26	2	10/22/15 7:45	CMR
Chloroform	0.15	0.10		0.71	0.49	2	10/22/15 7:45	CMR
Chloromethane	ND	0.20	V-05	ND	0.41	2	10/22/15 7:45	CMR
Dibromochloromethane	ND	0.10		ND	0.85	2	10/22/15 7:45	CMR
1,2-Dibromoethane (EDB)	ND	0.10		ND	0.77	2	10/22/15 7:45	CMR
1,2-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:45	CMR
1,3-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:45	CMR
1,4-Dichlorobenzene	ND	0.10		ND	0.60	2	10/22/15 7:45	CMR
Dichlorodifluoromethane (Freon 12)	1.8	0.10		9.0	0.49	2	10/22/15 7:45	CMR
1,1-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 7:45	CMR
1,2-Dichloroethane	ND	0.10		ND	0.40	2	10/22/15 7:45	CMR
1,1-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:45	CMR
cis-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:45	CMR
trans-1,2-Dichloroethylene	ND	0.10		ND	0.40	2	10/22/15 7:45	CMR
1,2-Dichloropropane	ND	0.10		ND	0.46	2	10/22/15 7:45	CMR
cis-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 7:45	CMR
trans-1,3-Dichloropropene	ND	0.10		ND	0.45	2	10/22/15 7:45	CMR
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.10	V-05	ND	0.70	2	10/22/15 7:45	CMR
Hexachlorobutadiene	ND	0.10		ND	1.1	2	10/22/15 7:45	CMR
Methylene Chloride	ND	1.0		ND	3.5	2	10/22/15 7:45	CMR
1,1,2,2-Tetrachloroethane	ND	0.10		ND	0.69	2	10/22/15 7:45	CMR
Tetrachloroethylene	4.7	0.10		32	0.68	2	10/22/15 7:45	CMR
1,2,4-Trichlorobenzene	ND	0.10	V-05	ND	0.74	2	10/22/15 7:45	CMR
1,1,1-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 7:45	CMR
1,1,2-Trichloroethane	ND	0.10		ND	0.55	2	10/22/15 7:45	CMR
Trichloroethylene	ND	0.10		ND	0.54	2	10/22/15 7:45	CMR
Trichlorofluoromethane (Freon 11)	ND	0.40		ND	2.2	2	10/22/15 7:45	CMR
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.40		ND	3.1	2	10/22/15 7:45	CMR
Vinyl Chloride	ND	0.10	V-05	ND	0.26	2	10/22/15 7:45	CMR

Surrogates	% Recovery	% REC Limits	
4-Bromofluorobenzene (1)	100	70-130	10/22/15 7:45

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ANALYTICAL RESULTS

Project Location: Portland, ME
Date Received: 10/19/2015
Field Sample #: SG-4
Sample ID: 15J0946-07
Sample Matrix: Soil Gas
Sampled: 10/9/2015 09:59

Sample Description/Location:
Sub Description/Location:
Canister ID: 1645
Canister Size: 3 liter
Flow Controller ID: 4080
Sample Type: 15 min

Work Order: 15J0946
Initial Vacuum(in Hg): -29
Final Vacuum(in Hg): -5
Receipt Vacuum(in Hg): -5.6
Flow Controller Type: Fixed-Orifice
Flow Controller Calibration
RPD Pre and Post-Sampling:

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Sample Extraction Data

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15J0946-01 [IA-1]	B133951	1.5	1	N/A	1000	400	855	10/21/15
15J0946-02 [IA-2]	B133951	1.5	1	N/A	1000	400	855	10/21/15
15J0946-03 [SS-1]	B133951	1.5	1	N/A	1000	400	300	10/21/15
15J0946-04 [SG-1]	B133951	1.5	1	N/A	1000	400	300	10/21/15
15J0946-05 [SG-2]	B133951	1.5	1	N/A	1000	400	300	10/21/15
15J0946-06 [SG-3]	B133951	1.5	1	N/A	1000	400	300	10/21/15
15J0946-07 [SG-4]	B133951	1.5	1	N/A	1000	400	300	10/21/15

Prep Method: TO-15 Prep-EPA TO-15

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15J0946-03RE1 [SS-1]	B133952	1.5	1	N/A	1000	400	30	10/26/15

Prep Method: APH Prep-MADEP APH rev 1

Lab Number [Field ID]	Batch	Pressure Dilution	Pre Dilution	Pre-Dil Initial mL	Pre-Dil Final mL	Default Injection mL	Actual Injection mL	Date
15J0946-03 [SS-1]	B133550	1.5	1	N/A	1000	400	300	10/21/15

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QUALITY CONTROL

Air Petroleum Hydrocarbons Analyses - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B133550 - APH Prep											
Blank (B133550-BLK1)					Prepared: 10/21/15 Analyzed: 10/22/15						
Benzene	ND	0.13									
1,3-Butadiene	ND	0.13									
Ethylbenzene	ND	0.13									
Methyl tert-Butyl Ether (MTBE)	ND	0.13									
Toluene	ND	0.13									
Naphthalene	ND	0.11									
m&p-Xylene	ND	0.13									
o-Xylene	ND	0.13									
C5-C8 Aliphatics			ND								
C9-C10 Aromatics			ND								
C9-C12 Aliphatics			ND								
Surrogate: 4-Bromofluorobenzene (4)	*8.32*				*8.00*		*104*	*70-130*			
LCS (B133550-BS1)					Prepared & Analyzed: 10/21/15						
1,3-Butadiene	4.37				5.00		87.4	70-130			
Naphthalene	5.50				5.00		110	50-150			
Surrogate: 4-Bromofluorobenzene (4)	*8.94*				*8.00*		*112*	*70-130*			
LCS (B133550-BS2)					Prepared & Analyzed: 10/21/15						
Benzene	7.38				9.38		78.7	70-130			
Decane	8.96				9.38		95.5	70-130			
Ethylbenzene	7.64				9.38		81.4	70-130			
Heptane	8.19				9.38		87.3	70-130			
Methyl tert-Butyl Ether (MTBE)	7.65				9.38		81.6	70-130			
Toluene	7.62				9.38		81.3	70-130			
1,3,5-Trimethylbenzene	7.84				9.38		83.5	70-130			
m&p-Xylene	7.55				9.38		80.4	70-130			
o-Xylene	7.94				9.38		84.7	70-130			
Surrogate: 4-Bromofluorobenzene (4)	*8.95*				*8.00*		*112*	*70-130*			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B133951 - TO-15 Prep											
Blank (B133951-BLK1)					Prepared: 10/21/15 Analyzed: 10/22/15						
Benzyl chloride	ND	0.034									
Bromodichloromethane	ND	0.034									
Carbon Tetrachloride	ND	0.034									
Chlorobenzene	ND	0.034									
Chloroethane	ND	0.034									V-05
Chloroform	ND	0.034									
Chloromethane	ND	0.068									V-05
Dibromochloromethane	ND	0.034									
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.065									
1,2-Dibromoethane (EDB)	ND	0.034									
1,2-Dichlorobenzene	ND	0.034									
1,3-Dichlorobenzene	ND	0.034									
1,4-Dichlorobenzene	ND	0.034									
Dichlorodifluoromethane (Freon 12)	ND	0.034									
1,1-Dichloroethane	ND	0.034									
1,2-Dichloroethane	ND	0.034									
1,1-Dichloroethylene	ND	0.034									
cis-1,2-Dichloroethylene	ND	0.034									
trans-1,2-Dichloroethylene	ND	0.034									
1,2-Dichloropropane	ND	0.034									
1,3-Dichloropropane	ND	0.14									
cis-1,3-Dichloropropene	ND	0.034									
trans-1,3-Dichloropropene	ND	0.034									
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	ND	0.034									V-05
Hexachlorobutadiene	ND	0.034									
Methylene Chloride	ND	0.34									
1,1,1,2-Tetrachloroethane	ND	0.091									
1,1,2,2-Tetrachloroethane	ND	0.034									
Tetrachloroethylene	ND	0.034									
1,2,4-Trichlorobenzene	ND	0.034									V-05
1,1,1-Trichloroethane	ND	0.034									
1,1,2-Trichloroethane	ND	0.034									
Trichloroethylene	ND	0.034									
Trichlorofluoromethane (Freon 11)	ND	0.14									
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.14									
Vinyl Chloride	ND	0.034									V-05
Surrogate: 4-Bromofluorobenzene (1)	*7.72*				*8.00*		*96.5*	*70-130*			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B133951 - TO-15 Prep											
LCS (B133951-BS1)					Prepared & Analyzed: 10/21/15						
Benzyl chloride	4.94				5.00		98.9	70-130			
Bromodichloromethane	4.92				5.00		98.5	70-130			
Carbon Tetrachloride	4.50				5.00		90.1	70-130			
Chlorobenzene	4.56				5.00		91.2	70-130			
Chloroethane	4.03				5.00		80.5	70-130			V-05
Chloroform	4.44				5.00		88.7	70-130			
Chloromethane	4.06				5.00		81.1	70-130			V-05
Dibromochloromethane	4.66				5.00		93.1	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.065		0.63				70-130			
1,2-Dibromoethane (EDB)	4.64				5.00		92.7	70-130			
1,2-Dichlorobenzene	5.06				5.00		101	70-130			
1,3-Dichlorobenzene	5.02				5.00		100	70-130			
1,4-Dichlorobenzene	4.91				5.00		98.2	70-130			
Dichlorodifluoromethane (Freon 12)	5.05				5.00		101	70-130			
1,1-Dichloroethane	4.41				5.00		88.1	70-130			
1,2-Dichloroethane	4.42				5.00		88.5	70-130			
1,1-Dichloroethylene	4.48				5.00		89.6	70-130			
cis-1,2-Dichloroethylene	4.30				5.00		86.0	70-130			
trans-1,2-Dichloroethylene	4.20				5.00		84.1	70-130			
1,2-Dichloropropane	4.77				5.00		95.3	70-130			
1,3-Dichloropropane	ND	0.14		0.62				70-130			
cis-1,3-Dichloropropene	4.85				5.00		97.0	70-130			
trans-1,3-Dichloropropene	4.53				5.00		90.6	70-130			
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	3.90				5.00		78.0	70-130			V-05
Hexachlorobutadiene	4.77				5.00		95.4	70-130			
Methylene Chloride	4.34				5.00		86.7	70-130			
1,1,1,2-Tetrachloroethane	ND	0.091		0.62				70-130			
1,1,2,2-Tetrachloroethane	5.56				5.00		111	70-130			
Tetrachloroethylene	4.22				5.00		84.5	70-130			
1,2,4-Trichlorobenzene	4.70				5.00		94.1	70-130			V-05
1,1,1-Trichloroethane	4.36				5.00		87.2	70-130			
1,1,2-Trichloroethane	4.68				5.00		93.7	70-130			
Trichloroethylene	4.59				5.00		91.8	70-130			
Trichlorofluoromethane (Freon 11)	4.28				5.00		85.7	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	4.55				5.00		91.1	70-130			
Vinyl Chloride	3.85				5.00		77.0	70-130			V-05
Surrogate: 4-Bromofluorobenzene (1)	*8.30*				*8.00*		*104*	*70-130*			

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QUALITY CONTROL

Air Toxics by EPA Compendium Methods - Quality Control

Analyte	ppbv Results	ppbv RL	ug/m3 Results	ug/m3 RL	Spike Level ppbv	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag/Qual
Batch B133952 - TO-15 Prep											
Blank (B133952-BLK1)					Prepared & Analyzed: 10/26/15						
Tetrachloroethylene	ND	0.034									
Surrogate: 4-Bromofluorobenzene (1)	*7.65*				*8.00*		*95.6*	*70-130*			
LCS (B133952-BS1)					Prepared & Analyzed: 10/26/15						
Tetrachloroethylene	5.11				5.00		102	70-130			
Surrogate: 4-Bromofluorobenzene (1)	*8.08*				*8.00*		*101*	*70-130*			

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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.
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.

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INTERNAL STANDARD AREA AND RT SUMMARY

MADEP APH rev 1

Internal Standard	Response	RT	Reference Response	Reference RT	Area %	Area % Limits	RT Diff	RT Diff Limit	Q
Calibration Check (S009841-CCV1)			Lab File ID: B102113.D			Analyzed: 10/21/15 21:43			
Bromochloromethane (4)	308671	8.252	252616	8.28	122	50 - 200	-0.0280	+/-0.50	
1,4-Difluorobenzene (4)	526639	10.138	437111	10.173	120	50 - 200	-0.0350	+/-0.50	
Chlorobenzene-d5 (4)	466230	14.903	374963	14.954	124	50 - 200	-0.0510	+/-0.50	
LCS (B133550-BS1)			Lab File ID: B102114.D			Analyzed: 10/21/15 22:22			
Bromochloromethane (4)	297419	8.255	308671	8.252	96	50 - 200	0.0030	+/-0.50	
1,4-Difluorobenzene (4)	507242	10.142	526639	10.138	96	50 - 200	0.0040	+/-0.50	
Chlorobenzene-d5 (4)	450766	14.901	466230	14.903	97	50 - 200	-0.0020	+/-0.50	
Calibration Check (S009841-CCV2)			Lab File ID: B102115.D			Analyzed: 10/21/15 23:00			
Bromochloromethane (4)	313803	8.251	308671	8.252	102	50 - 200	-0.0010	+/-0.50	
1,4-Difluorobenzene (4)	537671	10.138	526639	10.138	102	50 - 200	0.0000	+/-0.50	
Chlorobenzene-d5 (4)	468865	14.903	466230	14.903	101	50 - 200	0.0000	+/-0.50	
LCS (B133550-BS2)			Lab File ID: B102116.D			Analyzed: 10/21/15 23:38			
Bromochloromethane (4)	319491	8.255	313803	8.251	102	50 - 200	0.0040	+/-0.50	
1,4-Difluorobenzene (4)	556461	10.141	537671	10.138	103	50 - 200	0.0030	+/-0.50	
Chlorobenzene-d5 (4)	483216	14.9	468865	14.903	103	50 - 200	-0.0030	+/-0.50	
Blank (B133550-BLK1)			Lab File ID: B102118.D			Analyzed: 10/22/15 01:00			
Bromochloromethane (4)	285838	8.255	313803	8.251	91	50 - 200	0.0040	+/-0.50	
1,4-Difluorobenzene (4)	472308	10.142	537671	10.138	88	50 - 200	0.0040	+/-0.50	
Chlorobenzene-d5 (4)	405572	14.901	468865	14.903	87	50 - 200	-0.0020	+/-0.50	
SS-1 (15J0946-03)			Lab File ID: B102124.D			Analyzed: 10/22/15 05:11			
Bromochloromethane (4)	278852	8.26	313803	8.251	89	50 - 200	0.0090	+/-0.50	
1,4-Difluorobenzene (4)	469572	10.141	537671	10.138	87	50 - 200	0.0030	+/-0.50	
Chlorobenzene-d5 (4)	416894	14.906	468865	14.903	89	50 - 200	0.0030	+/-0.50	

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CONTINUING CALIBRATION CHECK

MADEP APH rev 1

S009841-CCV1

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
1,3-Butadiene	A	5.00	3.68	0.3156076	0.232636	0.05	-26.3	30
Naphthalene	A	5.00	3.83	0.937891	0.7186359	0.05	-23.4	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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CONTINUING CALIBRATION CHECK

MADEP APH rev 1

S009841-CCV2

COMPOUND	TYPE	CONC. (ppbv)		RESPONSE FACTOR			% DIFF / DRIFT	
		STD	CCV	ICAL	CCV	MIN (#)	CCV	LIMIT (#)
Benzene	A	9.38	7.14	0.788663	0.6003053	0.05	-23.9	30
Ethylbenzene	A	9.38	7.35	1.194193	0.9360717	0.05	-21.6	30
Methyl tert-Butyl Ether (MTBE)	A	9.38	7.32	1.141456	0.8914071	0.05	-21.9	30
Toluene	A	9.38	7.43	0.7724277	0.6122212	0.05	-20.7	30
m&p-Xylene	A	9.38	7.20	0.9464494	0.7263833	0.05	-23.3	30
o-Xylene	A	9.38	7.45	0.9181589	0.7294611	0.05	-20.6	30
C5-C8 Aliphatics (µg/m³)	A	214	204	0.518912	0.4943302	0.05	-4.7	30
C9-C10 Aromatics (µg/m³)	A	236	157	7.769163E-02	5.156021E-02	0.05	-33.6	30 *
C9-C12 Aliphatics (µg/m³)	A	333	269	0.6254355	0.5056237	0.05	-19.2	30

Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA TO-15 in Air	
Benzene	AIHA,FL,NJ,NY,VA,ME
Benzyl chloride	AIHA,FL,NJ,NY,VA,ME
Bromodichloromethane	AIHA,NJ,NY,VA,ME
1,3-Butadiene	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
Dibromochloromethane	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)	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	NY,ME
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	NJ,NY,VA,ME
Ethylbenzene	AIHA,FL,NJ,NY,VA,ME
Hexachlorobutadiene	AIHA,NJ,NY,VA,ME
Methyl tert-Butyl Ether (MTBE)	AIHA,FL,NJ,NY,VA,ME
Methylene Chloride	AIHA,FL,NJ,NY,VA,ME
Naphthalene	NY,ME
1,1,2,2-Tetrachloroethane	AIHA,FL,NJ,NY,VA,ME
Tetrachloroethylene	AIHA,FL,NJ,NY,VA,ME
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)	NY,ME
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	AIHA,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
MADEP APH rev 1 in Air	
Benzene	ME
1,3-Butadiene	ME
Ethylbenzene	ME
Methyl tert-Butyl Ether (MTBE)	ME

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP APH rev 1 in Air	
Toluene	ME
Naphthalene	ME
m&p-Xylene	ME
o-Xylene	ME
C5-C8 Aliphatics	ME
C9-C10 Aromatics	ME
C9-C12 Aliphatics	ME

The CON-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	10/30/2015
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

15J0946

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Doc #378 Rev 0 5/8/15

con-test ANALYTICAL LABORATORY
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39 Spruce Street
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD (AIR)

Company Name: MAJ Environmental
Address: 1034 Broadway, Saugus, ME
Phone: 207 767 3663
Project Name: DCI Suds Up
Project Location: Portland ME
Project Number: 1079
Project Manager: John Machenka
Con-Test Bid: 20150922
Invoice Recipient:
Sampled By: JGN

Requested Turnaround Time
7-Day ☐ 10-Day ☐
Other: Standard

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☐
Other: ME EDD
Enhanced Data Package Required: ☐
Email To:
Fax To #:

ANALYSIS REQUESTED

Please fill out completely, sign, date and retain the yellow copy for your records

Summa canisters and flow controllers must be returned within 15 days of receipt or rental fees will apply

For summa canister and flow controller information please refer to Con-Test's Air Media Agreement

Lab Use: Con-Test Work Order#	Client Use: Client Sample ID / Description	Collection Data: Beginning Date/Time	Collection Data: Ending Date/Time	Duration: Total Minutes Sampled	Flow Rate (m³/min, L/min)	Matrix: Code	Volume (Liters, m³)	TO-15 (Chlorinated only)	APH			Initial Pressure (" Hg)	Final Pressure (" Hg)	Lab Receipt Pressure (" Hg)	Summa Can ID	Flow Controller ID
01	IA-1	10/8 9:45am	10/9 9:05	24hrs		IA		X				30	6	7.2	2023	3055
02	IA-2	10/8 10:30	10/9 10:48	24hrs		IA		X				30	9	7.8	2212	3056
03	SS-1	10/9 10:30	10:48	18		SS		X	X			30	4	4	1451	4079
04	SG-1	10/9 9:05	9:22	17		SG		X				30	2.5	2.5	2078	4296
05	SG-2	10/9 9:12	9:27	15		SG		X				29	3	3	2052	4297
06	SG-3	10/9 9:35	9:54	19		SG		X				29	6	6	2087	4086
07	SG-4	10/9 9:40	9:59	19		SG		X				29	5	5	1645	4080

Comments: Lab Report with Soil (GW) report from DCI Suds Up proj. #1079

Please use the following codes to indicate possible sample concentration within the Conc Code column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

Matrix Codes:
SG = SOIL GAS
IA = INDOOR AIR
AMB = AMBIENT
SS = SUB SLAB
D = DUP
BL = BLANK
O = Other_____

Relinquished by: (signature)	Date/Time:
[signature]	10/16 12:00pm
Received by: (signature) [signature]	Date/Time: 12:47 10/19/15
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Detection Limit Requirements
MA
CT
Other: MAINE

Special Requirements
☐ MA MCP Required
☐ CT RCP Required
☐ Enhanced Data Package Required

NELAC and AIHA-LAP, LLC Accredited

TURNAROUND TIME (BUSINESS DAYS) STARTS AT 9:00 AM THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON THIS CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME CANNOT START UNTIL ALL QUESTIONS HAVE BEEN ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

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FedEx ® Tracking

781527991300

Ship date:
Fri 10/16/2015
SOUTH PORTLAND, ME US

Delivered
Signed for by: KMCGEE

Actual delivery:
Mon 10/19/2015 12:47 pm
EAST LONGMEADOW, MA US

Travel History

Date/Time	Activity	Location
10/19/2015 - Monday		
12:47 pm	Delivered	East Longmeadow, MA
10/17/2015 - Saturday		
6:18 am	On FedEx vehicle for delivery	CHICOPEE, MA
6:14 am	At local FedEx facility	CHICOPEE, MA
4:16 am	Departed FedEx location	WILLINGTON, CT
12:58 am	Arrived at FedEx location	WILLINGTON, CT
10/16/2015 - Friday		
9:20 pm	Left FedEx origin facility	SACO, ME
7:52 pm	Arrived at FedEx location	SACO, ME
6:00 pm	Picked up	SACO, ME
12:33 pm	Shipment information sent to FedEx	
12:10 pm	In FedEx possession Tendered at FedEx location	PORTLAND, ME

Shipment Facts

Tracking number	781527991300	**Service**	FedEx Ground
Weight	26.2 lbs / 11.88 kgs	**Dimensions**	22x19x14 in.
Total pieces	1	**Packaging**	Package

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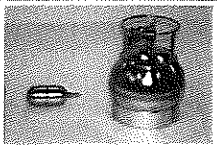

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con-test® ANALYTICAL LABORATORY

39 Spruce St.
East Longmeadow, MA.
01028
P: 413-525-2332
F: 413-525-6405

AIR Only Receipt Checklist

CLIENT NAME: MAI **RECEIVED BY:** PB **DATE:** 10.19.15

1) Was the chain(s) of custody relinquished and signed? (Yes) No

2) Does the chain agree with the samples? (Yes) No

If not, explain:

3) Are all the samples in good condition? (Yes) No

If not, explain:

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 _____ Date _____ Time _____

6) Location where samples are stored: Air

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? None

Containers received at Con-Test

		# of Containers	Types (Size, Duration)
Summa Cans (TO-14/TO-15/APH)		7	2 6Lit / 5 3Lit
Tedlar Bags			
TO-17 Tubes			
Regulators		7	2 24hr / 5 15min
Restrictors			
Hg/Hopcalite Tube (NIOSH 6009)			
(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 Regulators:

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: 1511 2087 24hr = 3055 15min = 4296 4080
6Lit = 2023 3Lit = 2078 1645 3056 4297 4086
2212 2052 4079

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/False) T/F/NA	Comment
1) The coolers'/boxes' custody seal, if present, is intact.	NA	
2) The cooler or samples do not appear to have been compromised or tampered with.	T	
3) Samples were received on ice.	NA	
4) Cooler Temperature is acceptable.	NA	
5) Cooler Temperature is recorded.	NA	
6) COC is filled out in ink and legible.	T	
7) COC is filled out with all pertinent information.	T	
8) Field Sampler's name present on COC.	T	
9) Samples are received within Holding Time.	T	
10) Sample containers have legible labels.	T	
11) Containers/media are not broken or leaking and valves and caps are closed tightly.	T	
12) Sample collection date/times are provided.	T	
13) Appropriate sample/media containers are used.	T	
14) There is sufficient volume for all requsted analyses, including any requested MS/MSDs.	T	
15) Trip blanks provided if applicable.	NA	

Who notified of False statements? **Date/Time:**

Doc #278 Rev. 5 October 2014 **Log-In Technician Initials:** PB **Date/Time:** 10.9.15 12:47