COMMITMENT & INTEGRITY
DRIVE RESULTS

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June 28, 2013

WOODARD &CURRAN

James Smith
Senior Project Manager Environmental Program
Real Estate Management and Sales
Department of Neighborhood Development
26 Court Street, 9th Floor
Boston, MA 02108

Re: Phase II Environmental Site Assessment
REMS Contract # C-31752-11
14 Ellington Street & 8 Old Road
Boston, MA

Dear Mr. Smith:

In accordance with the Agreement dated March 13, 2013 Woodard & Curran Inc. (Woodard & Curran) has prepared this letter to document the activities, analytical findings, and conclusions of the subsurface investigation completed for The City of Boston Department of Neighborhood Development (DND) at 14 Ellington Street and 8 Old Road in Dorchester, Massachusetts. The work was performed under a Quality Assurance Project Plan (QAPP) that was approved by the United Sates Department of Environmental Protection (USEPA) on March 27, 2013.

PROJECT DESCRIPTION

Woodard & Curran was retained by the City of Boston to conduct a Phase I Environmental Site Assessment (ESA) of the 14 Ellington Street property and abutting 8 Old Road property in the Dorchester neighborhood of Boston, Suffolk County, Massachusetts. Woodard & Curran evaluated the subject properties for evidence of the presence or likely presence of hazardous substances or petroleum products under conditions that indicate an existing release, a past release, or a material threat of release into structures, soils, groundwater, surface water, or sediments on the subject property.

The 14 Ellington Street Phase I ESA identified the property as occupied by various businesses, including an automobile repair business and gasoline filling station since 1957. The property is presently developed with a one-story, approximately 1,500-square foot, cement block and steel frame, commercial/auto repair style building with two garage bays. A hydraulic lift base and a floor drain with an unknown discharge location were observed inside the garage. An oil-water separator was observed along the exterior of the garage bays and may be connected to the interior floor drain. Five UST vent pipes were observed at the southeast exterior of the building along the property boundary. Additionally, an approximately six-inch diameter UST fill port was observed in the asphalt paved driveway in the vicinity of the garage bay doors.

The 8 Old Road property is a 6,537-square foot property that abuts the 14 Ellington Street property to the north. The property is currently unoccupied and has been improved with a vacant 1,745-square foot, one-story auto repair garage building with one garage bay that was reportedly constructed in 1930. Six underground storage tanks (USTs) were removed from the property in 2006. Removal actions were

conducted with MassDEP oversight. Although confirmatory soil sampling occurred primarily at shallow depths above the USTs, no visual or olfactory evidence of a petroleum release was documented during the UST removals.

The scope of the Phase II ESA for both properties was developed in response to the findings of the Phase I ESAs, including:

14 Ellington Street

- Historic use and storage of gasoline at the property, including the presence of USTs and fuel dispensers. Based on the observed presence of fill and vent pipes, USTs may be present at the property.
- A floor drain and hydraulic lift base within the garage bays, and an oil-water separator adjacent to the building. These features are potential release locations.

8 Old Road

- Former gasoline storage and automobile service on the property.

The developed Phase II scope included:

- A geophysical survey of the 14 Ellington Street property to assess the presence of USTs;
- A subsurface soil investigation to evaluate the impact to subsurface soil attributable to the USTs, floor drain, hydraulic lift base, and/or oil-water separator at 14 Ellington Street; and
- A groundwater assessment to evaluate subsurface impact attributable to historic activities on both the 14 Ellington Street and 8 Old Road properties.

PHASE II SUBSURFACE INVESTIGATION ACTIVITIES

Geophysical Survey

A geophysical survey (ground penetrating radar and electromagnetic survey) was completed on the exterior portions of the 14 Ellington Street property by Hager GeoScience, Inc. on April 15, 2013 to identify potential underground storage tanks (USTs) and subsurface utility locations. Due to the presence of three large roll-off dumpsters present at the property on this day, approximately 600 square feet of the property could not be accessed for the geophysical survey. Potential interference was also encountered in the area of the former dispensing island due to the presence of concrete and steel support re-bar.

Results of the geophysical survey indicated the potential presence of two USTs located in the northeast portion of the property parking lot in the area of the Oil/Water Separator. The locations of these two potential USTs are identified on the Site Plan attached to this letter and on Plate 3 included in the geophysical report issued by Hager GeoScience, Inc., which is also attached to this letter. The GPR survey also identified an anomaly under the northwestern portion of the concrete Dispenser Pad that was identified as a potential third UST. The geophysical survey also identified multiple subsurface utilities across the Ellington Street property. This information was used to adjust boring locations during the subsurface investigation.

Subsurface Investigation

On May 13, 2013, Woodard & Curran observed the completion of thirteen (13) soil borings at the subject property. The boring locations, designated WC-1 through WC-8, WC-8R, and WC-9 through WC-12, were completed on the 14 Ellington Street and 8 Old Road properties as shown on Figure 1. Borings WC-1 through WC-9 were located on the 14 Ellington Street parcel and borings WC-10 through WC-12 were located on the 8 Old Road parcel.

The soil borings were completed by Geologic – Earth Exploration, Inc. (Geologic) using track mounted direct push (GeoProbe) soil boring techniques. The borings were advanced to refusal, ranging from 6 feet below ground surface (bgs) at WC-8R to 16 feet bgs at WC-2. Groundwater was encountered only at WC-6 at approximately 8 feet bgs. No groundwater was encountered at any of the three (3) soil boring locations on the 8 Old Road property. Due to the lack of encountered groundwater at the other boring locations, groundwater encountered at WC-6 may be perched water contained within the potential UST grave located under the former gasoline dispenser pad that is separated from the underlying regional water table.

Geologic installed one groundwater monitoring well at WC-6, screened from roughly 3.4 to 13.4 feet bgs. Soils were sampled continuously from the ground surface to the bottom of each boring. Woodard & Curran collected soil samples at various depths, documented soil lithology, and screened the soil with a photoionization detector (PID) for the presence of total volatile organic compound vapors (TVOCs). The soil primarily consisted of well graded sands with varying amounts of gravel, cobbles, and silt. TVOC concentrations ranged from non-detect (<0.1 parts per million (ppm)) to greater than 1,000 ppm. Elevated TVOC concentrations were encountered at WC-4 (6-8 feet below ground surface (bgs)), WC-6 (2-4 feet bgs) and WC-7 (6-8 feet bgs).

Nine (9) primary and one (1) field duplicate soil samples were collected at varying depths from nine (9) of the 13 soil borings. Samples were placed into laboratory supplied containers, cooled to 4°C, and submitted under chain of custody protocol to Absolute Resource Associates of Portsmouth, New Hampshire. The samples were analyzed by the laboratory for extractable and volatile petroleum hydrocarbons (EPH, VPH), polychlorinated biphenyl compounds (PCBs), volatile organic compounds (VOCs), and RCRA 8 metals via Massachusetts Department of Environmental Protection (MassDEP) or USEPA methods.

Soil samples were not submitted for laboratory analysis from the 8 Old Road Property. Field screening with a PID did not suggest that VOC or petroleum impacts were present in soil.

Woodard & Curran personnel collected one (1) primary and one (1) duplicate groundwater sample from monitoring well WC-6. Prior to sampling, WC-6 was monitored via low flow sampling protocol, and sampled when field parameters stabilized. The groundwater samples were collected in laboratory supplied containers, cooled to 4°C, and submitted under chain of custody protocol to Absolute Resource Associates for analysis of EPH, VPH, and VOCs via MassDEP methods.

ANALYTICAL FINDINGS

A summary of soil analytical results is presented as Table 1, and the laboratory reports are included as Appendix A. Soil samples with concentrations exceeding applicable Massachusetts Contingency Plan (MCP) reportable concentrations for soils (RCS-1) were reported in three (3) of the soil samples obtained from the 14 Ellington Street property, including WC-2 (Chromium), WC-4 (EPH, PCBs, VPH, VOCs), and WC-6 (EPH, VPH, Arsenic and Lead).

A summary of groundwater analytical results is presented as Table 2, and the laboratory reports are included as Appendix A. Groundwater sample WC-6 contained detected EPH, VPH, and VOC compounds; however, none of the concentrations exceeded MCP reportable concentrations for groundwater (RCGW-2).

CONCLUSIONS

Based on the observations and results of the subsurface soil investigation and groundwater sampling completed by Woodard & Curran, it appears that there is impacted soil at the 14 Ellington Street property, which likely originated from historic releases from former underground storage tank (USTs) and historic automobile repair operations at this property. An elevated Chromium concentration was reported in the WC-2 soil sample obtained in the vicinity of the floor drain and hydraulic lift inside the former 14 Ellington Street service station building. Elevated EPH, VPH, VOC and PCB concentrations were reported at boring location WC-4, located adjacent to the 14 Ellington Street oil/water separator and elevated EPH, VPH, Arsenic and Lead concentrations were reported at boring WC-6, located in the center of the former gasoline dispenser pad at 14 Ellington Street.

The concentrations of Chromium, Arsenic, Lead, PCBs, Naphthalene, 1,3,5-Trimethylbenzene, C5-C8 Aliphatics, C9-C12 Aliphatics, C9-C10 Aromatics and numerous EPH compounds in the soils at the 14 Ellington Street property equal or exceed the applicable MCP RSC-1 reportable concentrations. Based upon this information, Woodard & Curran recommends that a MassDEP's Bureau of Waste Site Cleanup Release Notification Form (RNF) be submitted within 120 days of DND's receipt of this report. It is recommended that DND submit the RNF as a "Municipality with Exempt Status" as a result of the City being owner of the property through a tax taking.

Groundwater was not encountered at the three (3) soil boring locations at 8 Old Road and analysis of the groundwater sample obtained from the 14 Ellington Street property (well WC-6) reported EPH, VPH and VOC concentrations that were significantly below the applicable RCGW-2 reportable concentrations. The groundwater encountered at WC-6 may be perched water that is not representative of permanently saturated groundwater.

Additionally, it is recommended that DND excavate in the three areas where potential USTs were identified by the GPR survey; i.e. two potential USTs in the northeast portion of 14 Ellington Street and one potential UST in the northwestern portion of the gasoline dispenser pad at 14 Ellington Street. Abandoned USTs could act as a continuing source for oil and/or hazardous materials to the subsurface and should be properly removed and disposed under the observation of a qualified environmental professional. The elevated Chromium concentration in the soil at WC-2 (inside the former service station building) does not warrant further response actions beyond inclusion in the release notification to MassDEP.

Woodard & Curran appreciates the opportunity to work with the City of Boston DND on this project and should you have any questions concerning the findings or recommendations contained in this report please do not hesitate to contact me.

Sincerely,

WOODARD & CURRAN INC.

Daniel Clinton
Project Scientist

Craig Blake, P.E., LSP
Vice President

Attachments:
Figure 1 – Site Plan
Table 1 – Summary of Soil Analytical Data
Table 2 – Summary of Groundwater Analytical Data
Laboratory Analytical Reports
Geophysical Survey Report

Attachments

Legend

- Monitoring Well Location
- Soil Boring Location
- Site Property Boundary
- Site Features

0 10 20 40
Feet

N
W E
S

Michigan Avenue

WC-12

Asphalt Paved Area

WC-11

WC-10

Old Road

Building 8 Old Road

8 Old Road

Potential UST

WC-1

Asphalt Paved Area

Hydraulic Lift

WC-2

Floor Drain

WC-3

WC-6

WC-5

WC-4

Underground Storage Tank (UST)

Concrete Pad (Former Dispenser)

Potential UST

WC-7

Vent Pipes

Fill Port

WC-8

WC-8R

WC-9

Oil/ Water Separator

Asphalt Paved Area

14 Ellington Street

Storage Container

Ellington Street

FIGURE 2	DATE: June 20, 2013	DRAWN BY: RS	JOB NO.: 22376

14 ELLINGTON STREET/ 8 OLD ROAD
DORCHESTER, MASSACHUSETTS

SITE PLAN

WOODARD &CURRAN
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DEDHAM, MASSACHUSETTS
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TABLE 1
SUMMARY OF SOIL ANALYTICAL DATA
14 ELLINGTON STREET, BOSTON, MA

Sample ID			WC-1	WC-2	WC-3	WC-4	Duplicate (WC-4)	WC-5	WC-6	WC-7	WC-8	WC-9
Sample Collection Depth (feet)			12-14	14-16	2-4	6-8	6-8	5-7	2-4	6-8	2-4	10-12
PID Reading (ppmv)			0.1	0.0	7.2	1019	1019	0.1	1030	375	0.0	6.0
Sample Collection Date			5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013	5/13/2013
Parameter	Reporting Units	RCS-1										
GC SEMI VOA BY MA-EPH												
2-Methylnaphthalene	mg/Kg	0.7	<0.1	<0.1	<0.1	6.2	6.2	<0.1	41	<0.1	<0.1	<0.1
Acenaphthene	mg/Kg	4	<0.1	<0.1	<0.1	<0.5	<0.6	<0.1	<0.6	<0.1	<0.1	<0.1
Acenaphthylene	mg/Kg	1	<0.1	<0.1	<0.1	<0.5	<0.6	<0.1	<0.6	<0.1	<0.1	<0.1
Anthracene	mg/Kg	1000	<0.1	<0.1	<0.1	<0.5	3.9	<0.1	<0.6	<0.1	<0.1	<0.1
Benzo[a]anthracene	mg/Kg	7	<0.1	<0.1	0.2	<0.5	14	<0.1	0.7	<0.1	<0.1	<0.1
Benzo[a]pyrene	mg/Kg	2	<0.1	<0.1	0.2	<0.5	13	<0.1	<0.6	<0.1	<0.1	<0.1
Benzo[b]fluoranthene	mg/Kg	7	<0.1	<0.1	0.1	<0.5	12	<0.1	<0.6	<0.1	<0.1	<0.1
Benzo[g,h,i]perylene	mg/Kg	1000	<0.1	<0.1	<0.1	<0.5	3.6	<0.1	<0.6	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	mg/Kg	70	<0.1	<0.1	0.1	<0.5	11	<0.1	<0.6	<0.1	<0.1	<0.1
C11-C22 Aromatics (Adjusted)	mg/Kg	1000	<21	<22	<24	420	570	<25	470	38	41	<20
C19-C36 Aliphatics	mg/Kg	3000	<21	<22	<24	3600	4400	<25	130	450	68	<20
C9-C18 Aliphatics	mg/Kg	1000	<21	<22	<24	140	<120	<25	650	72	<23	<20
Chrysene	mg/Kg	70	<0.1	<0.1	0.2	0.6	16	<0.1	0.9	<0.1	0.1	<0.1
Dibenz(a,h)anthracene	mg/Kg	0.7	<0.1	<0.1	<0.1	<0.5	1.8	<0.1	<0.6	<0.1	<0.1	<0.1
Fluoranthene	mg/Kg	1000	<0.1	<0.1	0.3	1.1	29	<0.1	1.5	<0.1	0.2	<0.1
Fluorene	mg/Kg	1000	<0.1	<0.1	<0.1	0.6	1.2	<0.1	1.1	<0.1	<0.1	<0.1
Indeno[1,2,3-cd]pyrene	mg/Kg	7	<0.1	<0.1	<0.1	<0.5	3.8	<0.1	<0.6	<0.1	<0.1	<0.1
Naphthalene	mg/Kg	4	<0.1	<0.1	<0.1	<0.5	4.4	<0.1	14	<0.1	<0.1	<0.1
Phenanthrene	mg/Kg	10	<0.1	<0.1	0.2	2	14	<0.1	2.9	<0.1	0.3	<0.1
Pyrene	mg/Kg	1000	<0.1	<0.1	0.3	1.6	30	<0.1	<0.6	<0.1	0.2	<0.1
METALS BY 6010C												
Arsenic	mg/Kg	20	2.2	3.2	13	6.6	6.8	6.2	25	1.6	6.4	1.8
Barium	mg/Kg	1000	37	66	57	34	41	65	140	45	47	45
Cadmium	mg/Kg	2	<0.2	<0.2	0.4	<0.2	<0.3	<0.3	0.7	<0.2	0.3	<0.2
Chromium	mg/Kg	30	12	40	14	10	11	16	13	11	11	5
Lead	mg/Kg	300	5.8	5.3	240	210	210	90	850	9.4	170	62
Mercury	mg/Kg	20	<0.16	<0.19	0.94	0.51	0.18	0.7	0.19	<0.14	0.27	<0.16
Selenium	mg/Kg	400	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Silver	mg/Kg	100	<0.4	<0.4	<0.4	<0.4	<0.5	<0.5	<0.4	<0.4	<0.4	<0.4
POLYCHLORINATED BIPHENYLS (PCB) (EPA 8082)												
PCB-1016	mg/Kg	2	NA	<0.2	<0.2	3.1	3.8	NA	NA	NA	NA	NA
MA VPH												
C5-C8 Aliphatics	mg/Kg	100	<4	<5	<6	170	290	<11	<130	14	<5	<4
C9-C12 Aliphatics	mg/Kg	1000	<4	<5	<6	160	240	<11	1000	66	<5	<4
C9-C10 Aromatics	mg/Kg	100	<4	<5	<6	270	380	<11	1200	<5	<5	<4
MTBE	mg/Kg	0.1	<0.1	<0.1	<0.1	<0.6	<0.8	<0.2	<2.7	<0.1	<0.1	<0.1
Benzene	mg/Kg	2	<0.1	<0.1	<0.1	1.1	1.5	<0.2	<2.7	<0.1	<0.1	<0.1
Toluene	mg/Kg	30	<0.1	<0.1	<0.1	3.8	6.0	<0.2	13	<0.1	<0.1	<0.1
Ethylbenzene	mg/Kg	40	<0.1	<0.1	<0.1	6.3	8.7	<0.2	7.0	<0.1	<0.1	<0.1
m&p-Xylenes	mg/Kg	300	<0.1	<0.1	<0.1	28	41	<0.2	26	<0.1	<0.1	<0.1
o-Xylene	mg/Kg	300	<0.1	<0.1	<0.1	6.8	9.7	<0.2	3.7	<0.1	<0.1	<0.1
Naphthalene	mg/Kg	4	<0.2	<0.3	<0.3	6.0	8.3	<0.6	9.6	<0.2	<0.2	<0.2
VOCS (EPA 8260B)												
Benzene	mg/Kg	2	NA	<0.1	<0.1	0.9	1.2	NA	NA	NA	NA	NA
Toluene	mg/Kg	30		<0.1	<0.1	3.3	5.0					
Ethylbenzene	mg/Kg	40		<0.1	<0.1	5.6	7.2					
M&P-Xylenes	mg/Kg	300		<0.1	<0.1	26	36					
O-Xylene	mg/Kg	300		<0.1	<0.1	6.2	8.3					
Isopropylbenzene	mg/Kg	1000		<0.1	<0.1	5.9	6.8					
n-Propylbenzene	mg/Kg	100		<0.1	<0.1	14	16					
1,3,5-Trimethylbenzene	mg/Kg	10		<0.1	<0.1	13	18					
1,2,4-Trimethylbenzene	mg/Kg	1000		<0.1	<0.1	54	69					
sec-Butylbenzene	mg/Kg	NA		<0.1	<0.1	1.7	2.0					
4-Isopropyltoluene	mg/Kg	100		<0.1	<0.1	0.8	1.0					
Naphthalene	mg/Kg	4		<0.3	<0.3	4.1	5.2					

Notes:
mg/Kg - milligrams per kilogram
Highlighted cells indicate RCS-1 exceedance
Compounds in which at least one detection occurred are displayed

NA - Not analyzed
< - Not detected at laboratory reporting limit

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DATA
14 ELLINGTON STREET, BOSTON, MA

			Sample ID	WC-6	Duplicate
			Sample Collection Date	5/20/2013	5/20/2013
Parameter	Reporting Units	RCGW-2			
GC SEMI VOA BY MA-EPH					
2-Methylnaphthalene	ug/L	2000		2.0	2.0
C11-C22 Aromatics (Adjusted)	ug/L	5000		130	130
Naphthalene	ug/L	1000		1.1	1.2
MA VPH					
C9-C10 Aromatics	ug/L	7000		110	110
VOCS (EPA 8260B)					
1,2,4-Trimethylbenzene	ug/L	100000		27	<2

Notes:
ug/L - micrograms per liter
Highlighted cells indicate RCGW-2 exceedance.
Compounds in which at least one detection occurred are displayed.
NA - Not analyzed
< - Not detected at laboratory reporting limit

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Dan Clinton
Woodard & Curran
980 Washington St
Suite 325N
Dedham, MA 02026

PO Number: None
Job ID: 26794
Date Received: 5/14/13

Project: Ellington/Old Road 223376.01

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

(for)

Sue Sylvester
Principal, General Manager

Date of Approval: 6/5/2013
Total number of pages: 63

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH903		

Project ID: Ellington/Old Road 223376.01

Lab ID: 26794

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
WC-1	Solid	5/13/2013 11:00	26794-001	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
WC-2	Solid	5/13/2013 12:30	26794-002	
				PCBs in soil by 8082
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solids by 8260
				VPH in solids by MA DEP Method
WC-3	Solid	5/13/2013 12:00	26794-003	
				PCBs in soil by 8082
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solids by 8260
				VPH in solids by MA DEP Method
WC-4	Solid	5/13/2013 14:00	26794-004	
				PCBs in soil by 8082
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010

Project ID: Ellington/Old Road 223376.01

Lab ID: 26794

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
WC-4	Solid	5/13/2013 14:00	26794-004	
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solids by 8260
				VPH in solids by MA DEP Method
WC-5	Solid	5/13/2013 13:30	26794-005	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
WC-6	Solid	5/13/2013 8:40	26794-006	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
WC-7	Solid	5/13/2013 14:15	26794-007	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
WC-8	Solid	5/13/2013 10:30	26794-008	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010

Absolute Resource associates

Project ID: Ellington/Old Road 223376.01

Lab ID: 26794

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
WC-8	Solid	5/13/2013 10:30	26794-008	
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
WC-9	Solid	5/13/2013 9:40	26794-009	
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VPH in solids by MA DEP Method
Duplicate	Solid	5/13/2013 14:00	26794-010	
				PCBs in soil by 8082
				EPH in solids by MADEP Method
				Soil Digestion for ICP Analysis
				Silver in solids by 6010
				Arsenic in solids by 6010
				Barium in solids by 6010
				Cadmium in solids by 6010
				Chromium in solids by 6010
				Mercury in solids by 7471
				Lead in solids by 6010
				Selenium in solids by 6010
				Percent Dry Matter for Sample Calc by SM2540B,G
				VOCs in solids by 8260
				VPH in solids by MA DEP Method
Trip Blank	Solid	5/13/2013 0:00	26794-011	
				VOCs in solids by 8260

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-002
Sample ID: WC-2
Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.
Samples prepared in methanol at a ratio of 0.7 mL MeOH/g soil.
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
chloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
bromomethane	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
chloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
diethyl ether	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
acetone	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
methylene chloride	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
t-butanol (TBA)	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
2-butanone (MEK)	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
chloroform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
tetrahydrofuran (THF)	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
trichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,4-dioxane	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
dibromomethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
4-methyl-2-pentanone (MIBK)	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
2-hexanone	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B

Absolute Resource associates

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-002

Sample ID: WC-2

Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.7 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
styrene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
bromoform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
bromobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
naphthalene	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**103**	78-114	%	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
toluene-D8 SUR	**100**	88-110	%	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
4-bromofluorobenzene SUR	**99**	86-115	%	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B
a,a,a-trifluorotoluene SUR	**127**	70-130	%	1	LMM	5/17/13	6063	5/21/13	18:32	SW5035A8260B

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.71 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
chloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
bromomethane	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
chloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
diethyl ether	< 0.6	0.6	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
acetone	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
methylene chloride	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
t-butanol (TBA)	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
2-butanone (MEK)	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
chloroform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
tetrahydrofuran (THF)	< 0.6	0.6	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
trichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,4-dioxane	< 3	3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
dibromomethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
4-methyl-2-pentanone (MIBK)	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
2-hexanone	< 0.6	0.6	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B

Absolute Resource associates

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.71 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
styrene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
bromoform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
bromobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
naphthalene	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**102**	78-114	%	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
toluene-D8 SUR	**103**	88-110	%	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
4-bromofluorobenzene SUR	**99**	86-115	%	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B
a,a,a-trifluorotoluene SUR	**135** *	70-130	%	1	LMM	5/17/13	6063	5/21/13	18:58	SW5035A8260B

**** This surrogate is above the acceptance criteria. Since no targets were detected above the quantitation limit, there is no impact to the data.***

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-004
Sample ID: WC-4
Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
chloromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
vinyl chloride	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
bromomethane	< 1.5	1.5	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
chloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
trichlorofluoromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
diethyl ether	< 3.0	3.0	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
acetone	< 15	15	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1-dichloroethene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
methylene chloride	< 1.5	1.5	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
carbon disulfide	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
methyl t-butyl ether (MTBE)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
trans-1,2-dichloroethene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
isopropyl ether (DIPE)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
ethyl t-butyl ether (ETBE)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1-dichloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
t-butanol (TBA)	< 15	15	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
2-butanone (MEK)	< 1.8	1.8	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
2,2-dichloropropane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
cis-1,2-dichloroethene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
chloroform	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
bromochloromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
tetrahydrofuran (THF)	< 3.0	3.0	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1,1-trichloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1-dichloropropene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
t-amyl-methyl ether (TAME)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
carbon tetrachloride	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2-dichloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
benzene	**0.9**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
trichloroethene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2-dichloropropane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
bromodichloromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,4-dioxane	< 15	15	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
dibromomethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
4-methyl-2-pentanone (MIBK)	< 2.7	2.7	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
cis-1,3-dichloropropene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
toluene	**3.3**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
trans-1,3-dichloropropene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
2-hexanone	< 3.0	3.0	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1,2-trichloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,3-dichloropropane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B

Absolute Resource associates

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-004
Sample ID: WC-4
Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
tetrachloroethene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
dibromochloromethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2-dibromoethane (EDB)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
chlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1,1,2-tetrachloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
ethylbenzene	**5.6**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
m&p-xylenes	**26**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
o-xylene	**6.2**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
styrene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
bromoform	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
isopropylbenzene	**5.9**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,1,2,2-tetrachloroethane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2,3-trichloropropane	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
n-propylbenzene	**14**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
bromobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,3,5-trimethylbenzene	**13**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
2-chlorotoluene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
4-chlorotoluene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
tert-butylbenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2,4-trimethylbenzene	**54**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
sec-butylbenzene	**1.7**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,3-dichlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
4-isopropyltoluene	**0.8**	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,4-dichlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2-dichlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
n-butylbenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2-dibromo-3-chloropropane (DBCP)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2,4-trichlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
hexachlorobutadiene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
naphthalene	**4.1**	1.5	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
1,2,3-trichlorobenzene	< 0.6	0.6	ug/g	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**96**	78-114	%	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
toluene-D8 SUR	**101**	88-110	%	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
4-bromofluorobenzene SUR	**105**	86-115	%	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B
a,a,a-trifluorotoluene SUR	**118**	70-130	%	5	LMM	5/17/13	6063	5/21/13	21:36	SW5035A8260B

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-010
Sample ID: Duplicate
Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
chloromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
vinyl chloride	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
bromomethane	< 1.9	1.9	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
chloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
trichlorofluoromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
diethyl ether	< 3.8	3.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
acetone	< 19	19	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1-dichloroethene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
methylene chloride	< 1.9	1.9	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
carbon disulfide	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
methyl t-butyl ether (MTBE)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
trans-1,2-dichloroethene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
isopropyl ether (DIPE)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
ethyl t-butyl ether (ETBE)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1-dichloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
t-butanol (TBA)	< 19	19	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
2-butanone (MEK)	< 2.3	2.3	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
2,2-dichloropropane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
cis-1,2-dichloroethene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
chloroform	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
bromochloromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
tetrahydrofuran (THF)	< 3.8	3.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1,1-trichloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1-dichloropropene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
t-amyl-methyl ether (TAME)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
carbon tetrachloride	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2-dichloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
benzene	**1.2**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
trichloroethene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2-dichloropropane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
bromodichloromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,4-dioxane	< 19	19	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
dibromomethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
4-methyl-2-pentanone (MIBK)	< 3.4	3.4	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
cis-1,3-dichloropropene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
toluene	**5.0**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
trans-1,3-dichloropropene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
2-hexanone	< 3.8	3.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1,2-trichloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,3-dichloropropane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-010
Sample ID: Duplicate
Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
tetrachloroethene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
dibromochloromethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2-dibromoethane (EDB)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
chlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1,1,2-tetrachloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
ethylbenzene	**7.2**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
m&p-xylenes	**36**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
o-xylene	**8.3**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
styrene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
bromoform	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
isopropylbenzene	**6.8**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,1,2,2-tetrachloroethane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2,3-trichloropropane	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
n-propylbenzene	**16**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
bromobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,3,5-trimethylbenzene	**18**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
2-chlorotoluene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
4-chlorotoluene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
tert-butylbenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2,4-trimethylbenzene	**69**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
sec-butylbenzene	**2.0**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,3-dichlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
4-isopropyltoluene	**1.0**	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,4-dichlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2-dichlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
n-butylbenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2-dibromo-3-chloropropane (DBCP)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2,4-trichlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
hexachlorobutadiene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
naphthalene	**5.2**	1.9	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
1,2,3-trichlorobenzene	< 0.8	0.8	ug/g	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**99**	78-114	%	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
toluene-D8 SUR	**103**	88-110	%	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
4-bromofluorobenzene SUR	**106**	86-115	%	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B
a,a,a-trifluorotoluene SUR	**123**	70-130	%	5	LMM	5/17/13	6063	5/21/13	22:03	SW5035A8260B

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-011
Sample ID: Trip Blank
Matrix: Solid
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
chloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
vinyl chloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
bromomethane	< 0.2	0.2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
chloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
trichlorofluoromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
diethyl ether	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
acetone	< 2	2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
methylene chloride	< 0.2	0.2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
carbon disulfide	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
trans-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
isopropyl ether (DIPE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
ethyl t-butyl ether (ETBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
t-butanol (TBA)	< 2	2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
2-butanone (MEK)	< 0.3	0.3	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
2,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
cis-1,2-dichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
chloroform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
bromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
tetrahydrofuran (THF)	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1,1-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
t-amyl-methyl ether (TAME)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
carbon tetrachloride	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2-dichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
trichloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
bromodichloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,4-dioxane	< 2	2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
dibromomethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
4-methyl-2-pentanone (MIBK)	< 0.4	0.4	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
cis-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
trans-1,3-dichloropropene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
2-hexanone	< 0.5	0.5	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1,2-trichloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,3-dichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-011
Sample ID: Trip Blank
Matrix: Solid
Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil
Received on ice at 5˚C, in satisfactory condition.
Sampled: 5/13/13 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
tetrachloroethene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
dibromochloromethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2-dibromoethane (EDB)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
chlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1,1,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
styrene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
bromoform	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
isopropylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,1,2,2-tetrachloroethane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2,3-trichloropropane	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
n-propylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
bromobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,3,5-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
2-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
4-chlorotoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
tert-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2,4-trimethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
sec-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,3-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
4-isopropyltoluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,4-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2-dichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
n-butylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2-dibromo-3-chloropropane (DBCP)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2,4-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
hexachlorobutadiene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
naphthalene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
1,2,3-trichlorobenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**99**	78-114	%	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
toluene-D8 SUR	**100**	88-110	%	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
4-bromofluorobenzene SUR	**95**	86-115	%	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B
a,a,a-trifluorotoluene SUR	**125**	70-130	%	1	LMM	5/17/13	6063	5/21/13	18:05	SW5035A8260B

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-001

Sample ID: WC-1

Matrix: Solid Percent Dry: 92.2% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.62 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
Unadjusted C9-C12 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
naphthalene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
C5-C8 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
C9-C12 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
C9-C10 Aromatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**94**	70-130	%	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**94**	70-130	%	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH
a,a,a-trifluorotoluene SUR	**115**	70-130	%	1	LMM	5/17/13	6064	5/17/13	16:16	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-002

Sample ID: WC-2

Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.7 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
Unadjusted C9-C12 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
naphthalene	< 0.3	0.3	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
C5-C8 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
C9-C12 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
C9-C10 Aromatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**97**	70-130	%	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**96**	70-130	%	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH
a,a,a-trifluorotoluene SUR	**122**	70-130	%	1	LMM	5/17/13	6064	5/17/13	17:22	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.71 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 6	6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
Unadjusted C9-C12 Aliphatics	< 6	6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
naphthalene	< 0.3	0.3	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
C5-C8 Aliphatics	< 6	6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
C9-C12 Aliphatics	< 6	6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
C9-C10 Aromatics	< 6	6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**80**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**77**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH
a,a,a-trifluorotoluene SUR	**97**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:02	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-004

Sample ID: WC-4

Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.

Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	**170**	30	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
Unadjusted C9-C12 Aliphatics	**480**	30	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
methyl t-butyl ether (MTBE)	< 0.6	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
benzene	**1.1**	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
toluene	**3.8**	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
ethylbenzene	**6.3**	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
m&p-xylenes	**28**	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
o-xylene	**6.8**	0.6	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
naphthalene	**6.0**	1.5	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
C5-C8 Aliphatics	**170**	30	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
C9-C12 Aliphatics	**160**	30	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
C9-C10 Aromatics	**270**	30	ug/g	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**93**	70-130	%	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**89**	70-130	%	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH
a,a,a-trifluorotoluene SUR	**130**	70-130	%	5	LMM	5/17/13	6064	5/21/13	21:26	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-005

Sample ID: WC-5

Matrix: Solid Percent Dry: 77.9% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 1.53 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 13:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 11	11	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
Unadjusted C9-C12 Aliphatics	< 11	11	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
methyl t-butyl ether (MTBE)	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
benzene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
toluene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
ethylbenzene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
m&p-xylenes	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
o-xylene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
naphthalene	< 0.6	0.6	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
C5-C8 Aliphatics	< 11	11	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
C9-C12 Aliphatics	< 11	11	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
C9-C10 Aromatics	< 11	11	ug/g	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**84**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**78**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH
a,a,a-trifluorotoluene SUR	**91**	70-130	%	1	LMM	5/17/13	6064	5/21/13	17:35	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-006

Sample ID: WC-6

Matrix: Solid Percent Dry: 81.3% Results expressed on a dry weight basis.

Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 8:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 130	130	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
Unadjusted C9-C12 Aliphatics	**2200**	130	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
methyl t-butyl ether (MTBE)	< 2.7	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
benzene	< 2.7	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
toluene	**13**	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
ethylbenzene	**7.0**	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
m&p-xylenes	**26**	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
o-xylene	**3.7**	2.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
naphthalene	**9.6**	6.7	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
C5-C8 Aliphatics	< 130	130	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
C9-C12 Aliphatics	**1000**	130	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
C9-C10 Aromatics	**1200**	130	ug/g	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**99**	70-130	%	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**90**	70-130	%	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH
a,a,a-trifluorotoluene SUR	**DOR**	70-130	%	20	LMM	5/17/13	6064	6/4/13	20:50	MA VPH

DOR = Diluted out of range.

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-007

Sample ID: WC-7

Matrix: Solid Percent Dry: 91% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.74 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 14:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	**14**	5	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
Unadjusted C9-C12 Aliphatics	**69**	5	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
naphthalene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
C5-C8 Aliphatics	**14**	5	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
C9-C12 Aliphatics	**66**	5	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
C9-C10 Aromatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**95**	70-130	%	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**85**	70-130	%	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH
a,a,a-trifluorotoluene SUR	**90**	70-130	%	1	LMM	5/17/13	6064	5/21/13	19:15	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-008

Sample ID: WC-8

Matrix: Solid Percent Dry: 84.5% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.63 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 10:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
Unadjusted C9-C12 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
naphthalene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
C5-C8 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
C9-C12 Aliphatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
C9-C10 Aromatics	< 5	5	ug/g	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**80**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**76**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH
a,a,a-trifluorotoluene SUR	**89**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:09	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-009

Sample ID: WC-9

Matrix: Solid Percent Dry: 92.6% Results expressed on a dry weight basis.

Samples prepared in methanol at a ratio of 0.72 mL MeOH/g soil.

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 9:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
Unadjusted C9-C12 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
methyl t-butyl ether (MTBE)	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
benzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
toluene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
ethylbenzene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
m&p-xylenes	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
o-xylene	< 0.1	0.1	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
naphthalene	< 0.2	0.2	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
C5-C8 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
C9-C12 Aliphatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
C9-C10 Aromatics	< 4	4	ug/g	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**81**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**77**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH
a,a,a-trifluorotoluene SUR	**90**	70-130	%	1	LMM	5/17/13	6064	5/21/13	18:42	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-010

Sample ID: Duplicate

Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.

Samples prepared in methanol within a 1:1 ratio +/- 25% mL MeOH/g soil

Received on ice at 5˚C, in satisfactory condition.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	**300**	38	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
Unadjusted C9-C12 Aliphatics	**670**	38	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
methyl t-butyl ether (MTBE)	< 0.8	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
benzene	**1.5**	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
toluene	**6.0**	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
ethylbenzene	**8.7**	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
m&p-xylenes	**41**	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
o-xylene	**9.7**	0.8	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
naphthalene	**8.3**	1.9	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
C5-C8 Aliphatics	**290**	38	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
C9-C12 Aliphatics	**240**	38	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
C9-C10 Aromatics	**380**	38	ug/g	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**83**	70-130	%	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**89**	70-130	%	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH
a,a,a-trifluorotoluene SUR	**144** *	70-130	%	5	LMM	5/17/13	6064	5/21/13	22:32	MA VPH

**** The surrogate showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample. The chromatogram is included for reference.***

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-002

Sample ID: WC-2

Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1221	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1232	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1242	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1248	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1254	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
PCB-1260	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**74**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082
decachlorobiphenyl SUR	**73**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	18:42	SW3546/8082

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1221	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1232	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1242	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1248	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1254	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
PCB-1260	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**99**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082
decachlorobiphenyl SUR	**84**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	19:12	SW3546/8082

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-004

Sample ID: WC-4

Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	**3.1**	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1221	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1232	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1242	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1248	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1254	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
PCB-1260	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**87**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082
decachlorobiphenyl SUR	**67**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	19:43	SW3546/8082

Sample#: 26794-010

Sample ID: Duplicate

Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
PCB-1016	**3.8**	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1221	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1232	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1242	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1248	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1254	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
PCB-1260	< 0.2	0.2	ug/g	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
Surrogate Recovery		**Limits**								
tetrachloro-m-xylene SUR	**68**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082
decachlorobiphenyl SUR	**49**	30-150	%	1	JLZ	5/22/13	6074	5/22/13	20:13	SW3546/8082

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-001

Sample ID: WC-1

Matrix: Solid Percent Dry: 92.2% Results expressed on a dry weight basis.

Sampled: 5/13/13 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
phenanthrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
chrysene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	1:48	MA EPH
Unadjusted C11-C22 Aromatics	< 21	21	ug/g	1	JLZ	5/15/13	6056	5/20/13	21:53	MA EPH
C9-C18 Aliphatics	< 21	21	ug/g	1	JLZ	5/15/13	6056	5/21/13	13:17	MA EPH
C19-C36 Aliphatics	< 21	21	ug/g	1	JLZ	5/15/13	6056	5/21/13	13:17	MA EPH
C11-C22 Aromatics	< 21	21	ug/g	1	JLZ	5/15/13	6056	5/20/13	21:53	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**98**	40-140	%	1	JLZ	5/15/13	6056	5/21/13	13:17	MA EPH
o-terphenyl SUR	**83**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	21:53	MA EPH
2-fluorobiphenyl SUR	**N/A**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	21:53	MA EPH
2-bromonaphthalene SUR	**N/A**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	21:53	MA EPH

Note: No ranges were detected above the method reporting limit; therefore fractionation was not required.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-002

Sample ID: WC-2

Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
phenanthrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
chrysene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	2:25	MA EPH
Unadjusted C11-C22 Aromatics	< 22	22	ug/g	1	JLZ	5/15/13	6056	5/20/13	22:16	MA EPH
C9-C18 Aliphatics	< 22	22	ug/g	1	JLZ	5/15/13	6056	5/21/13	13:35	MA EPH
C19-C36 Aliphatics	< 22	22	ug/g	1	JLZ	5/15/13	6056	5/21/13	13:35	MA EPH
C11-C22 Aromatics	< 22	22	ug/g	1	JLZ	5/15/13	6056	5/20/13	22:16	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**98**	40-140	%	1	JLZ	5/15/13	6056	5/21/13	13:35	MA EPH
o-terphenyl SUR	**82**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	22:16	MA EPH
2-fluorobiphenyl SUR	**N/A**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	22:16	MA EPH
2-bromonaphthalene SUR	**N/A**	40-140	%	1	JLZ	5/15/13	6056	5/20/13	22:16	MA EPH

Note: No ranges were detected above the method reporting limit; therefore fractionation was not required.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
phenanthrene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
fluoranthene	**0.3**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
pyrene	**0.3**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
benzo(a)anthracene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
chrysene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
benzo(b)fluoranthene	**0.1**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
benzo(k)fluoranthene	**0.1**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
benzo(a)pyrene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:56	MA EPH
Unadjusted C11-C22 Aromatics	< 24	24	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:29	MA EPH
C9-C18 Aliphatics	< 24	24	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:20	MA EPH
C19-C36 Aliphatics	< 24	24	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:20	MA EPH
C11-C22 Aromatics	< 24	24	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:29	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**71**	40-140	%	1	JLZ	5/15/13	6056	5/21/13	22:20	MA EPH
o-terphenyl SUR	**46**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:29	MA EPH
2-fluorobiphenyl SUR	**75**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:29	MA EPH
2-bromonaphthalene SUR	**68**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:29	MA EPH

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-004
Sample ID: WC-4
Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.
Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
2-methylnaphthalene	**6.2**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
phenanthrene	**2.0**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
acenaphthene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
acenaphthylene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
fluorene	**0.6**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
anthracene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
fluoranthene	**1.1**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
pyrene	**1.6**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
benzo(a)anthracene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
chrysene	**0.6**	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
benzo(b)fluoranthene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
benzo(k)fluoranthene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
benzo(a)pyrene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
indeno(1,2,3-cd)pyrene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
dibenzo(a,h)anthracene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
benzo(g,h,i)perylene	< 0.5	0.5	ug/g	5	AJD	5/15/13	6056	5/29/13	6:12	MA EPH
Unadjusted C11-C22 Aromatics	**440**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:51	MA EPH
C9-C18 Aliphatics	**140**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	1:40	MA EPH
C19-C36 Aliphatics	**3600**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	1:40	MA EPH
C11-C22 Aromatics	**420**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:51	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**#**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	1:40	MA EPH
o-terphenyl SUR	**28** *	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:51	MA EPH
2-fluorobiphenyl SUR	**74**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:51	MA EPH
2-bromonaphthalene SUR	**84**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:51	MA EPH

**** The surrogate showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample.***
 # The surrogate could not be determined due to co-eluting hydrocarbons present in the sample. The chromatogram is included for reference.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-005

Sample ID: WC-5

Matrix: Solid Percent Dry: 77.9% Results expressed on a dry weight basis.

Sampled: 5/13/13 13:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
phenanthrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
chrysene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:41	MA EPH
Unadjusted C11-C22 Aromatics	< 25	25	ug/g	1	JLZ	5/15/13	6056	5/22/13	8:20	MA EPH
C9-C18 Aliphatics	< 25	25	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:38	MA EPH
C19-C36 Aliphatics	< 25	25	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:38	MA EPH
C11-C22 Aromatics	< 25	25	ug/g	1	JLZ	5/15/13	6056	5/22/13	8:20	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**56**	40-140	%	1	JLZ	5/15/13	6056	5/21/13	22:38	MA EPH
o-terphenyl SUR	**44**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:20	MA EPH
2-fluorobiphenyl SUR	**87**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:20	MA EPH
2-bromonaphthalene SUR	**87**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:20	MA EPH

Project ID: Ellington/Old Road 223376.01
Job ID: 26794
Sample#: 26794-006
Sample ID: WC-6
Matrix: Solid Percent Dry: 81.3% Results expressed on a dry weight basis.
Sampled: 5/13/13 8:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**14**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
2-methylnaphthalene	**41**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
phenanthrene	**2.9**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
acenaphthene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
acenaphthylene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
fluorene	**1.1**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
anthracene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
fluoranthene	**1.5**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
pyrene	**1.5**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
benzo(a)anthracene	**0.7**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
chrysene	**0.9**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
benzo(b)fluoranthene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
benzo(k)fluoranthene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
benzo(a)pyrene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
indeno(1,2,3-cd)pyrene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
dibenzo(a,h)anthracene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
benzo(g,h,i)perylene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	6:50	MA EPH
Unadjusted C11-C22 Aromatics	**530**	23	ug/g	1	JLZ	5/15/13	6056	5/23/13	21:09	MA EPH
C9-C18 Aliphatics	**650**	23	ug/g	1	JLZ	5/15/13	6056	5/21/13	23:14	MA EPH
C19-C36 Aliphatics	**130**	23	ug/g	1	JLZ	5/15/13	6056	5/21/13	23:14	MA EPH
C11-C22 Aromatics	**470**	23	ug/g	1	JLZ	5/15/13	6056	5/23/13	21:09	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**33** *	40-140	%	1	JLZ	5/15/13	6056	5/21/13	23:14	MA EPH
o-terphenyl SUR	**42**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:09	MA EPH
2-fluorobiphenyl SUR	**120**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:09	MA EPH
2-bromonaphthalene SUR	**138**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:09	MA EPH

**** The surrogate showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample.***

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-007

Sample ID: WC-7

Matrix: Solid Percent Dry: 91% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
phenanthrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
chrysene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	4:19	MA EPH
Unadjusted C11-C22 Aromatics	**38**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	8:43	MA EPH
C9-C18 Aliphatics	**72**	22	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:56	MA EPH
C19-C36 Aliphatics	**450**	22	ug/g	1	JLZ	5/15/13	6056	5/21/13	22:56	MA EPH
C11-C22 Aromatics	**38**	22	ug/g	1	JLZ	5/15/13	6056	5/22/13	8:43	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**65**	40-140	%	1	JLZ	5/15/13	6056	5/21/13	22:56	MA EPH
o-terphenyl SUR	**51**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:43	MA EPH
2-fluorobiphenyl SUR	**86**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:43	MA EPH
2-bromonaphthalene SUR	**82**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	8:43	MA EPH

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-008

Sample ID: WC-8

Matrix: Solid Percent Dry: 84.5% Results expressed on a dry weight basis.

Sampled: 5/13/13 10:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
phenanthrene	**0.3**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
fluoranthene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
pyrene	**0.2**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
chrysene	**0.1**	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	5:34	MA EPH
Unadjusted C11-C22 Aromatics	**43**	23	ug/g	1	JLZ	5/15/13	6056	5/23/13	20:46	MA EPH
C9-C18 Aliphatics	< 23	23	ug/g	1	JLZ	5/15/13	6056	5/24/13	17:08	MA EPH
C19-C36 Aliphatics	**68**	23	ug/g	1	JLZ	5/15/13	6056	5/24/13	17:08	MA EPH
C11-C22 Aromatics	**41**	23	ug/g	1	JLZ	5/15/13	6056	5/23/13	20:46	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**56**	40-140	%	1	JLZ	5/15/13	6056	5/24/13	17:08	MA EPH
o-terphenyl SUR	**58**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	20:46	MA EPH
2-fluorobiphenyl SUR	**101**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	20:46	MA EPH
2-bromonaphthalene SUR	**101**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	20:46	MA EPH

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-009

Sample ID: WC-9

Matrix: Solid Percent Dry: 92.6% Results expressed on a dry weight basis.

Sampled: 5/13/13 9:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
2-methylnaphthalene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
phenanthrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
acenaphthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
acenaphthylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
fluorene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
benzo(a)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
chrysene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
benzo(b)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
benzo(k)fluoranthene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
benzo(a)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
indeno(1,2,3-cd)pyrene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
dibenzo(a,h)anthracene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
benzo(g,h,i)perylene	< 0.1	0.1	ug/g	1	AJD	5/15/13	6056	5/29/13	3:03	MA EPH
Unadjusted C11-C22 Aromatics	< 20	20	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:06	MA EPH
C9-C18 Aliphatics	< 20	20	ug/g	1	JLZ	5/15/13	6056	5/22/13	1:04	MA EPH
C19-C36 Aliphatics	< 20	20	ug/g	1	JLZ	5/15/13	6056	5/22/13	1:04	MA EPH
C11-C22 Aromatics	< 20	20	ug/g	1	JLZ	5/15/13	6056	5/22/13	9:06	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**66**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	1:04	MA EPH
o-terphenyl SUR	**51**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:06	MA EPH
2-fluorobiphenyl SUR	**83**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:06	MA EPH
2-bromonaphthalene SUR	**83**	40-140	%	1	JLZ	5/15/13	6056	5/22/13	9:06	MA EPH

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-010

Sample ID: Duplicate

Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**4.4**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
2-methylnaphthalene	**6.2**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
phenanthrene	**14**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
acenaphthene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
acenaphthylene	< 0.6	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
fluorene	**1.2**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
anthracene	**3.9**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
fluoranthene	**29**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
pyrene	**30**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
benzo(a)anthracene	**14**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
chrysene	**16**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
benzo(b)fluoranthene	**12**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
benzo(k)fluoranthene	**11**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
benzo(a)pyrene	**13**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
indeno(1,2,3-cd)pyrene	**3.8**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
dibenzo(a,h)anthracene	**1.8**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
benzo(g,h,i)perylene	**3.6**	0.6	ug/g	5	AJD	5/15/13	6056	5/29/13	7:27	MA EPH
Unadjusted C11-C22 Aromatics	**730**	24	ug/g	1	JLZ	5/15/13	6056	5/23/13	21:32	MA EPH
C9-C18 Aliphatics	< 120	120	ug/g	5	JLZ	5/15/13	6056	5/24/13	17:26	MA EPH
C19-C36 Aliphatics	**4400**	120	ug/g	5	JLZ	5/15/13	6056	5/24/13	17:26	MA EPH
C11-C22 Aromatics	**570**	24	ug/g	1	JLZ	5/15/13	6056	5/23/13	21:32	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	#	40-140	%	5	JLZ	5/15/13	6056	5/24/13	17:26	MA EPH
o-terphenyl SUR	**18** *	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:32	MA EPH
2-fluorobiphenyl SUR	**100**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:32	MA EPH
2-bromonaphthalene SUR	**105**	40-140	%	1	JLZ	5/15/13	6056	5/23/13	21:32	MA EPH

**** The surrogate showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample.***
 # The surrogate could not be determined due to co-eluting hydrocarbons present in the sample. The chromatogram is included for reference.

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-001

Sample ID: WC-1

Matrix: Solid Percent Dry: 92.2% Results expressed on a dry weight basis.

Sampled: 5/13/13 11:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**2.2**	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Barium	**37**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Cadmium	< 0.2	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Chromium	**12**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Lead	**5.8**	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Mercury	< 0.16	0.16	ug/g	1	AJD	5/23/13	6085	5/24/13	7:35	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	18:06	SW3051A6010C

Sample#: 26794-002

Sample ID: WC-2

Matrix: Solid Percent Dry: 84.4% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**3.2**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Barium	**66**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Cadmium	< 0.2	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Chromium	**40**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Lead	**5.3**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Mercury	< 0.19	0.19	ug/g	1	AJD	5/23/13	6085	5/24/13	7:37	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	18:21	SW3051A6010C

Sample#: 26794-003

Sample ID: WC-3

Matrix: Solid Percent Dry: 80.9% Results expressed on a dry weight basis.

Sampled: 5/13/13 12:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**13**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Barium	**57**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Cadmium	**0.4**	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Chromium	**14**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Lead	**240**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Mercury	**0.94**	0.16	ug/g	1	AJD	5/23/13	6085	5/24/13	7:39	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	18:50	SW3051A6010C

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-004

Sample ID: WC-4

Matrix: Solid Percent Dry: 86.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**6.6**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Barium	**34**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Cadmium	< 0.2	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Chromium	**10**	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Lead	**210**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Mercury	**0.51** M	0.17	ug/g	1	AJD	5/23/13	6085	5/24/13	7:40	SW7471B
	M = The percent recovery for the matrix spike was 56. The acceptance criteria is 75-125%. All other batch QC was within acceptance. Matrix interference suspected.									
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	18:58	SW3051A6010C

Sample#: 26794-005

Sample ID: WC-5

Matrix: Solid Percent Dry: 77.9% Results expressed on a dry weight basis.

Sampled: 5/13/13 13:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**6.2**	0.7	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Barium	**65**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Cadmium	< 0.3	0.3	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Chromium	**16**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Lead	**90**	0.7	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Mercury	**0.70**	0.20	ug/g	1	AJD	5/23/13	6085	5/24/13	7:44	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C
Silver	< 0.5	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	19:05	SW3051A6010C

Sample#: 26794-006

Sample ID: WC-6

Matrix: Solid Percent Dry: 81.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 8:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**25**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Barium	**140**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Cadmium	**0.7**	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Chromium	**13**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Lead	**850**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Mercury	**0.19**	0.16	ug/g	1	AJD	5/23/13	6085	5/24/13	7:46	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	19:12	SW3051A6010C

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-007

Sample ID: WC-7

Matrix: Solid Percent Dry: 91% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:15

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**1.6**	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Barium	**45**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Cadmium	< 0.2	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Chromium	**11**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Lead	**9.4**	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Mercury	< 0.14	0.14	ug/g	1	AJD	5/23/13	6085	5/24/13	7:47	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	19:19	SW3051A6010C

Sample#: 26794-008

Sample ID: WC-8

Matrix: Solid Percent Dry: 84.5% Results expressed on a dry weight basis.

Sampled: 5/13/13 10:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**6.4**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Barium	**47**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Cadmium	**0.3**	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Chromium	**11**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Lead	**170**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Mercury	**0.27**	0.18	ug/g	1	AJD	5/23/13	6085	5/24/13	7:49	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	19:26	SW3051A6010C

Sample#: 26794-009

Sample ID: WC-9

Matrix: Solid Percent Dry: 92.6% Results expressed on a dry weight basis.

Sampled: 5/13/13 9:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Arsenic	**1.8**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Barium	**45**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Cadmium	< 0.2	0.2	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Chromium	**5**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Lead	**62**	0.6	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Mercury	< 0.16	0.16	ug/g	1	AJD	5/23/13	6085	5/24/13	7:51	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C
Silver	< 0.4	0.4	ug/g	1	AB	5/22/13	6081	5/22/13	19:33	SW3051A6010C

Project ID: Ellington/Old Road 223376.01

Job ID: 26794

Sample#: 26794-010

Sample ID: Duplicate

Matrix: Solid Percent Dry: 80.3% Results expressed on a dry weight basis.

Sampled: 5/13/13 14:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Analysis Time	Reference
Arsenic	**6.8**	0.7	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Barium	**41**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Cadmium	< 0.3	0.3	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Chromium	**11**	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Lead	**210**	0.7	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Mercury	**0.18**	0.16	ug/g	1	AJD	5/23/13	6085	5/24/13	7:53	SW7471B
Selenium	< 3	3	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C
Silver	< 0.5	0.5	ug/g	1	AB	5/22/13	6081	5/22/13	19:41	SW3051A6010C

Quality Control Report

124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

MassDEP Analytical Protocol Certification Form

Laboratory Name: **Absolute Resource Associates** Project #: 223376.01

Project Location: Massachusetts RTN:

This Form provides certifications for the following data set: **26794**

Matrices: Groundwater/Surface Water ☐ Soil/Sediment ☑ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☑	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☑	9014 Total Cyanide/PAC CAM VIA ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes☑ No☐
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes☑ No☐
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes☑ No☐
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes☑ No☐
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modifications(s)? (Refer to the individual methods for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes☐ No☑ Yes☐ No☐
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes☑ No☐

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

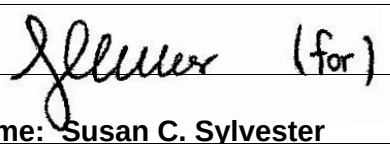
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes☐ No*☑

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes☐ No*☑
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes☐ No*☑

* All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature:  **Position: Lab Director**

Printed Name: Susan C. Sylvester **Date: 6/5/13**

Sample Integrity Table

Parameter	Method	Matrix	Minimum Volume	Recommended Container(s)	Required Preservation	Holding Time
Volatile Organics	EPA 8260	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to ≤6°C 1:1 HCl to pH <2	14 Days
Volatile Organics	EPA 8260	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol and 1 unpreserved container for percent moisture	Cool to ≤6°C Methanol	14 Days
Semivolatile Organics	EPA 8270	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Semivolatile Organics	EPA 8270	Solid	20g	4oz Amber Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
Organochlorine Pesticides	EPA 8081	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Organochlorine Pesticides	EPA 8081	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
PCBs	EPA 8082	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	365 Days
PCBs	EPA 8082	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	365 Days
Herbicides (subcontracted)	EPA 8151	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Herbicides (subcontracted)	EPA 8151	Solid	30g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
MA DEP VPH	MADEP VPH	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to ≤6°C 1:1 HCl to pH <2	14 Days
MA DEP VPH	MADEP VPH	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol and 1 unpreserved container for percent moisture	Cool to ≤6°C Methanol	28 Days
MA DEP EPH	MADEP EPH	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C 1:1 H_2SO_4 to pH <2	14 Days
MA DEP EPH	MADEP EPH	Solid	30g	4oz Amber Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
Total Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	1:1 HNO_3 to pH <2	180 Days
Dissolved Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	Filter First 1:1 HNO_3 to pH <2	180 Days
Total Metals	EPA 6010	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	180 Days
Total Mercury (may be combined with Total Metals)	EPA 7470	Aqueous	100mL	125mL Polyethylene Bottle	1:1 HNO_3 to pH <2	28 Days
Total Mercury (may be combined with Total Metals)	EPA 7471	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	28 Days
Chromium, Hexavalent	EPA 7196	Aqueous	100mL	125mL Polyethylene Bottle	Cool to ≤6°C (NH4)2SO4 buffer	28 Days
Chromium, Hexavalent (subcontract)	EPA 7196	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	30 Days
Cyanide, Total	EPA 9014	Aqueous	125mL	125mL Polyethylene Bottle	Cool to ≤6°C 1:1 NaOH to pH >8	14 Days
Cyanide, Total	EPA 9014	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days

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Absolute Resource associates

Case Narrative
Lab # 26794

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, at 5 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.
As noted on the result page, several VOC samples did not meet the +/-25% methanol to soil ratio.

Calibration

PCB: Quantification is quadratic.
See the included table for a list of compounds quantitated by quadratic equation.

Method Blank

No exceptions noted.

Surrogate Recoveries

VOC: The sample 26794-003 showed high recovery for the surrogate a,a,a-trifluorotoluene. Since no targets were detected above the quantitation limit, there is no impact to the data.
VPH: The surrogate, a,a,a-trifluorotoluene, in the sample 26794-010 showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample. The chromatogram is included in the report.
EPH: One or more of the extraction surrogates in the samples 26794-004, -006, and -010 showed recovery outside the acceptance limits as a result of hydrocarbons present in the sample. The chromatograms are included in the report.
VPH: The surrogate, a,a,a-trifluorotoluene, was diluted out of the calibration range in the following sample: 26794-006.

Laboratory Control Sample Results

VOC: The MLCS6063 did not meet the acceptance criteria for dichlorodifluoromethane, chloromethane, trans-1,3-dichloropropene, 2-hexanone, 1,1,2-trichloroethane, and 4-chlorotoluene. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Mercury: The percent recovery for mercury in the matrix spike (26794-004) was 56%, outside the acceptance criteria of 75-125%. All other batch QC was within acceptance. Matrix interference is suspected.

Other

EPH: The fractionation check sample (LCS) for the batch of silica gel in use for these samples met the method acceptance criteria.
EPH: For the following samples: 26794-001, -002, no ranges were detected above the method reporting limit and therefore did not require fractionation.

MassDEP Analytical Protocol Certification Form Questions A through I

No explanation is needed for Questions A through I answered in the affirmative.
Question E: VPH target compounds and ranges were determined by GC/MS, therefore, Box E is checked "No." Ranges were determined in a similar manner as described in the MADEP APH method of 2/2000.
Question G: The CAM protocol reporting limits were not achieved for this project due to dilutions necessary for sample analysis. Box G is "No."
Question H: See surrogate section above. Box H is "No."
Question I: Metals: The MCP required metals were not requested by the customer. Box I is "No."

Quantitation by Quadratic Equation
Lab # 26794

Quantitation of the following compounds was based on a quadratic equation

dichlorodifluoromethane
Bromomethane
Acetone
t-butanol (TBA)
Carbon disulfide
Bromoform

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5035A8260B	MB6063	dichlorodifluoromethane		<	0.1	ug/g					
		chloromethane		<	0.1	ug/g					
		vinyl chloride		<	0.1	ug/g					
		bromomethane		<	0.2	ug/g					
		chloroethane		<	0.1	ug/g					
		trichlorofluoromethane		<	0.1	ug/g					
		diethyl ether		<	0.5	ug/g					
		acetone		<	2.5	ug/g					
		1,1-dichloroethene		<	0.1	ug/g					
		methylene chloride		<	0.2	ug/g					
		carbon disulfide		<	0.1	ug/g					
		methyl t-butyl ether (MTBE)		<	0.1	ug/g					
		trans-1,2-dichloroethene		<	0.1	ug/g					
		isopropyl ether (DIPE)		<	0.1	ug/g					
		ethyl t-butyl ether (ETBE)		<	0.1	ug/g					
		1,1-dichloroethane		<	0.1	ug/g					
		t-butanol (TBA)		<	2.5	ug/g					
		2-butanone (MEK)		<	0.5	ug/g					
		2,2-dichloropropane		<	0.1	ug/g					
		cis-1,2-dichloroethene		<	0.1	ug/g					
		chloroform		<	0.1	ug/g					
		bromochloromethane		<	0.1	ug/g					
		tetrahydrofuran (THF)		<	0.5	ug/g					
		1,1,1-trichloroethane		<	0.1	ug/g					
		1,1-dichloropropene		<	0.1	ug/g					
		t-amyl-methyl ether (TAME)		<	0.1	ug/g					
		carbon tetrachloride		<	0.1	ug/g					
		1,2-dichloroethane		<	0.1	ug/g					
		benzene		<	0.1	ug/g					
		trichloroethene		<	0.1	ug/g					
		1,2-dichloropropane		<	0.1	ug/g					
		bromodichloromethane		<	0.1	ug/g					
		1,4-dioxane		<	2.5	ug/g					
		dibromomethane		<	0.1	ug/g					
		4-methyl-2-pentanone (MIBK)		<	0.5	ug/g					
		cis-1,3-dichloropropene		<	0.1	ug/g					
		toluene		<	0.1	ug/g					
		trans-1,3-dichloropropene		<	0.1	ug/g					
		2-hexanone		<	0.5	ug/g					
		1,1,2-trichloroethane		<	0.1	ug/g					
		1,3-dichloropropane		<	0.1	ug/g					
		tetrachloroethene		<	0.1	ug/g					
		dibromochloromethane		<	0.1	ug/g					
		1,2-dibromoethane (EDB)		<	0.1	ug/g					
		chlorobenzene		<	0.1	ug/g					
		1,1,1,2-tetrachloroethane		<	0.1	ug/g					
		ethylbenzene		<	0.1	ug/g					
		m&p-xylenes		<	0.1	ug/g					
		o-xylene		<	0.1	ug/g					
		styrene		<	0.1	ug/g					
		bromoform		<	0.1	ug/g					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5035A8260B	MB6063	isopropylbenzene		<	0.1	ug/g						
		1,1,2,2-tetrachloroethane		<	0.1	ug/g						
		1,2,3-trichloropropane		<	0.1	ug/g						
		n-propylbenzene		<	0.1	ug/g						
		bromobenzene		<	0.1	ug/g						
		1,3,5-trimethylbenzene		<	0.1	ug/g						
		2-chlorotoluene		<	0.1	ug/g						
		4-chlorotoluene		<	0.1	ug/g						
		tert-butylbenzene		<	0.1	ug/g						
		1,2,4-trimethylbenzene		<	0.1	ug/g						
		sec-butylbenzene		<	0.1	ug/g						
		1,3-dichlorobenzene		<	0.1	ug/g						
		4-isopropyltoluene		<	0.1	ug/g						
		1,4-dichlorobenzene		<	0.1	ug/g						
		1,2-dichlorobenzene		<	0.1	ug/g						
		n-butylbenzene		<	0.1	ug/g						
		1,2-dibromo-3-chloropropane (DBCP)		<	0.1	ug/g						
		1,2,4-trichlorobenzene		<	0.1	ug/g						
		hexachlorobutadiene		<	0.1	ug/g						
		naphthalene		<	0.2	ug/g						
		1,2,3-trichlorobenzene		<	0.1	ug/g						
		dibromofluoromethane SUR			129	%			78	114		
		toluene-D8 SUR			97	%			88	110		
		4-bromofluorobenzene SUR			101	%			86	115		
		a,a,a-trifluorotoluene SUR			101	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260B	MLCS6063	dichlorodifluoromethane			0.7	ug/g	1	68	*	70	130		
		chloromethane			0.5	ug/g	1	55	*	70	130		
		vinyl chloride			1.0	ug/g	1	95		70	130		
		bromomethane			0.9	ug/g	1	93		70	130		
		chloroethane			1.0	ug/g	1	97		70	130		
		trichlorofluoromethane			0.9	ug/g	1	92		70	130		
		diethyl ether			0.9	ug/g	1	86		70	130		
		acetone		<	2.5	ug/g	1	113					
		1,1-dichloroethene			0.7	ug/g	1	73		70	130		
		methylene chloride			0.9	ug/g	1	90		70	130		
		carbon disulfide			0.7	ug/g	1	73		70	130		
		methyl t-butyl ether (MTBE)			0.9	ug/g	1	94		70	130		
		trans-1,2-dichloroethene			0.8	ug/g	1	84		70	130		
		isopropyl ether (DIPE)			1.0	ug/g	1	96		70	130		
		ethyl t-butyl ether (ETBE)			0.9	ug/g	1	94		70	130		
		1,1-dichloroethane			0.9	ug/g	1	86		70	130		
		t-butanol (TBA)			5.6	ug/g	5	112		70	130		
		2-butanone (MEK)			0.9	ug/g	1	95		70	130		
		2,2-dichloropropane			0.9	ug/g	1	90		70	130		
		cis-1,2-dichloroethene			1.0	ug/g	1	98		70	130		
		chloroform			1.0	ug/g	1	98		70	130		
		bromochloromethane			0.9	ug/g	1	89		70	130		
		tetrahydrofuran (THF)			0.9	ug/g	1	91		70	130		
		1,1,1-trichloroethane			0.9	ug/g	1	89		70	130		
		1,1-dichloropropene			1.0	ug/g	1	100		70	130		
		t-amyl-methyl ether (TAME)			0.9	ug/g	1	89		70	130		
		carbon tetrachloride			0.8	ug/g	1	85		70	130		
		1,2-dichloroethane			1.0	ug/g	1	100		70	130		
		benzene			0.9	ug/g	1	90		70	130		
		trichloroethene			0.9	ug/g	1	91		70	130		
		1,2-dichloropropane			1.0	ug/g	1	101		70	130		
		bromodichloromethane			0.9	ug/g	1	95		70	130		
		1,4-dioxane		<	2.5	ug/g	2	100		70	130		
		dibromomethane			1.0	ug/g	1	97		70	130		
		4-methyl-2-pentanone (MIBK)			0.9	ug/g	1	86		70	130		
		cis-1,3-dichloropropene			0.9	ug/g	1	94		70	130		
		toluene			0.7	ug/g	1	73		70	130		
		trans-1,3-dichloropropene			0.5	ug/g	1	53	*	70	130		
		2-hexanone		<	0.5	ug/g	1	44	*	70	130		
		1,1,2-trichloroethane			0.6	ug/g	1	58	*	70	130		
		1,3-dichloropropane			0.9	ug/g	1	92		70	130		
		tetrachloroethene			0.8	ug/g	1	85		70	130		
		dibromochloromethane			0.8	ug/g	1	85		70	130		
		1,2-dibromoethane (EDB)			0.9	ug/g	1	89		70	130		
		chlorobenzene			1.0	ug/g	1	100		70	130		
		1,1,1,2-tetrachloroethane			1.0	ug/g	1	105		70	130		
		ethylbenzene			1.0	ug/g	1	97		70	130		
		m&p-xylenes			2.0	ug/g	2	99		70	130		
		o-xylene			1.3	ug/g	1	126		70	130		
		styrene			0.9	ug/g	1	94		70	130		
		bromoform			1.2	ug/g	1	125		70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5035A8260B	MLCS6063	isopropylbenzene		1.4	ug/g	1	138	*	70	130		
		1,1,2,2-tetrachloroethane		0.8	ug/g	1	84		70	130		
		1,2,3-trichloropropane		0.9	ug/g	1	91		70	130		
		n-propylbenzene		0.9	ug/g	1	89		70	130		
		bromobenzene		0.9	ug/g	1	86		70	130		
		1,3,5-trimethylbenzene		0.8	ug/g	1	82		70	130		
		2-chlorotoluene		0.9	ug/g	1	87		70	130		
		4-chlorotoluene		0.6	ug/g	1	64	*	70	130		
		tert-butylbenzene		1.1	ug/g	1	105		70	130		
		1,2,4-trimethylbenzene		0.9	ug/g	1	91		70	130		
		sec-butylbenzene		1.0	ug/g	1	104		70	130		
		1,3-dichlorobenzene		1.0	ug/g	1	100		70	130		
		4-isopropyltoluene		1.0	ug/g	1	102		70	130		
		1,4-dichlorobenzene		1.0	ug/g	1	97		70	130		
		1,2-dichlorobenzene		1.0	ug/g	1	99		70	130		
		n-butylbenzene		1.0	ug/g	1	102		70	130		
		1,2-dibromo-3-chloropropane (DBCP)		0.9	ug/g	1	92		70	130		
		1,2,4-trichlorobenzene		0.9	ug/g	1	93		70	130		
		hexachlorobutadiene		1.0	ug/g	1	101		70	130		
		naphthalene		0.9	ug/g	1	90		70	130		
		1,2,3-trichlorobenzene		0.9	ug/g	1	93		70	130		
		dibromofluoromethane SUR		94	%				78	114		
		toluene-D8 SUR		86	%				88	110		
		4-bromofluorobenzene SUR		131	%				86	115		
		a,a,a-trifluorotoluene SUR		110	%				70	130		

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA VPH	MB6064	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics		<	5	ug/g						
		Unadjusted C9-C12 Aliphatics		<	5	ug/g						
		methyl t-butyl ether (MTBE)		<	0.1	ug/g						
		benzene		<	0.1	ug/g						
		toluene		<	0.1	ug/g						
		ethylbenzene		<	0.1	ug/g						
		m&p-xylenes		<	0.1	ug/g						
		o-xylene		<	0.1	ug/g						
		naphthalene		<	0.2	ug/g						
		C9-C10 Aromatics		<	5	ug/g						
		2,5-dibromotoluene as Aromatic SUR			88	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			85	%			70	130		
		a,a,a-trifluorotoluene SUR			99	%			70	130		
MA VPH	MLCS6064	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics			7.7	ug/g	7.5	102	70	130		
		Unadjusted C9-C12 Aliphatics			4.7	ug/g	5.5	85	70	130		
		methyl t-butyl ether (MTBE)			1.4	ug/g	1.5	95	70	130		
		benzene			0.4	ug/g	0.5	76	70	130		
		toluene			1.2	ug/g	1.5	82	70	130		
		ethylbenzene			0.4	ug/g	0.5	75	70	130		
		m&p-xylenes			1.6	ug/g	2	81	70	130		
		o-xylene			0.9	ug/g	1	89	70	130		
		naphthalene			0.8	ug/g	1	82	70	130		
		C9-C10 Aromatics			0.9	ug/g	1	86	70	130		
		2,5-dibromotoluene as Aromatic SUR			86	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			85	%			70	130		
		a,a,a-trifluorotoluene SUR			110	%			70	130		
MA VPH	MLCSD6064	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics			6.8	ug/g	7.5	91	70	130	11	25
		Unadjusted C9-C12 Aliphatics			4.5	ug/g	5.5	82	70	130	4	25
		methyl t-butyl ether (MTBE)			1.3	ug/g	1.5	88	70	130	8	25
		benzene			0.4	ug/g	0.5	73	70	130	5	25
		toluene			1.2	ug/g	1.5	78	70	130	5	25
		ethylbenzene			0.4	ug/g	0.5	79	70	130	5	25
		m&p-xylenes			1.6	ug/g	2	78	70	130	3	25
		o-xylene			0.9	ug/g	1	85	70	130	4	25
		naphthalene			0.8	ug/g	1	82	70	130	1	25
		C9-C10 Aromatics			0.8	ug/g	1	81	70	130	6	25
		2,5-dibromotoluene as Aromatic SUR			85	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			85	%			70	130		
		a,a,a-trifluorotoluene SUR			104	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA EPH	BLK6056	naphthalene		<	0.1	ug/g						
		2-methylnaphthalene		<	0.1	ug/g						
		phenanthrene		<	0.1	ug/g						
		acenaphthene		<	0.1	ug/g						
		acenaphthylene		<	0.1	ug/g						
		fluorene		<	0.1	ug/g						
		anthracene		<	0.1	ug/g						
		fluoranthene		<	0.1	ug/g						
		pyrene		<	0.1	ug/g						
		benzo(a)anthracene		<	0.1	ug/g						
		chrysene		<	0.1	ug/g						
		benzo(b)fluoranthene		<	0.1	ug/g						
		benzo(k)fluoranthene		<	0.1	ug/g						
		benzo(a)pyrene		<	0.1	ug/g						
		indeno(1,2,3-cd)pyrene		<	0.1	ug/g						
		dibenzo(a,h)anthracene		<	0.1	ug/g						
		benzo(g,h,i)perylene		<	0.1	ug/g						
		Unadjusted C11-C22 Aromatics		<	20	ug/g						
		C9-C18 Aliphatics		<	20	ug/g						
		C19-C36 Aliphatics		<	20	ug/g						
		C11-C22 Aromatics		<	20	ug/g						
		1-chloro-octadecane SUR			68	%			40	140		
		o-terphenyl SUR			55	%			40	140		
		2-fluorobiphenyl SUR			95	%			40	140		
		2-bromonaphthalene SUR			91	%			40	140		
MA EPH	LCS6056	naphthalene			3.5	ug/g	6	59	40	140		
		2-methylnaphthalene			3.6	ug/g	6	59	40	140		
		phenanthrene			4.7	ug/g	6	78	40	140		
		acenaphthene			4.1	ug/g	6	68	40	140		
		acenaphthylene			4.0	ug/g	6	67	40	140		
		fluorene			3.9	ug/g	6	66	40	140		
		anthracene			4.8	ug/g	6	80	40	140		
		fluoranthene			3.5	ug/g	6	58	40	140		
		pyrene			4.4	ug/g	6	74	40	140		
		benzo(a)anthracene			4.5	ug/g	6	74	40	140		
		chrysene			4.2	ug/g	6	70	40	140		
		benzo(b)fluoranthene			4.5	ug/g	6	75	40	140		
		benzo(k)fluoranthene			5.3	ug/g	6	88	40	140		
		benzo(a)pyrene			4.9	ug/g	6	82	40	140		
		indeno(1,2,3-cd)pyrene			3.5	ug/g	6	59	40	140		
		dibenzo(a,h)anthracene			3.6	ug/g	6	61	40	140		
		benzo(g,h,i)perylene			3.6	ug/g	6	59	40	140		
		Unadjusted C11-C22 Aromatics			71	ug/g	102	70	40	140		
		C9-C18 Aliphatics			34	ug/g	36	93	40	140		
		C19-C36 Aliphatics			49	ug/g	48	103	40	140		
		C11-C22 Aromatics		<	20	ug/g						
		1-chloro-octadecane SUR			84	%			40	140		
		o-terphenyl SUR			66	%			40	140		
		2-fluorobiphenyl SUR			97	%			40	140		
		2-bromonaphthalene SUR			78	%			40	140		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA EPH	LCSD6056	naphthalene			3.0	ug/g	6	51	40	140	14	25
		2-methylnaphthalene			3.1	ug/g	6	51	40	140	15	25
		phenanthrene			4.2	ug/g	6	71	40	140	10	25
		acenaphthene			3.6	ug/g	6	60	40	140	12	25
		acenaphthylene			3.6	ug/g	6	60	40	140	11	25
		fluorene			3.6	ug/g	6	60	40	140	9	25
		anthracene			4.6	ug/g	6	77	40	140	4	25
		fluoranthene			2.8	ug/g	6	46	40	140	23	25
		pyrene			4.1	ug/g	6	69	40	140	7	25
		benzo(a)anthracene			4.1	ug/g	6	68	40	140	9	25
		chrysene			3.8	ug/g	6	64	40	140	9	25
		benzo(b)fluoranthene			4.3	ug/g	6	71	40	140	6	25
		benzo(k)fluoranthene			4.5	ug/g	6	76	40	140	15	25
		benzo(a)pyrene			4.5	ug/g	6	75	40	140	10	25
		indeno(1,2,3-cd)pyrene			3.2	ug/g	6	54	40	140	8	25
		dibenzo(a,h)anthracene			3.4	ug/g	6	56	40	140	8	25
		benzo(g,h,i)perylene			3.4	ug/g	6	57	40	140	5	25
		Unadjusted C11-C22 Aromatics			63	ug/g	102	61	40	140	13	25
		C9-C18 Aliphatics			28	ug/g	36	79	40	140	17	25
		C19-C36 Aliphatics			47	ug/g	48	98	40	140	5	25
		C11-C22 Aromatics		<	20	ug/g						
		1-chloro-octadecane SUR			74	%			40	140		
		o-terphenyl SUR			58	%			40	140		
		2-fluorobiphenyl SUR			94	%			40	140		
		2-bromonaphthalene SUR			84	%			40	140		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3546/8082	BLK6074	PCB-1016		<	0.1	ug/g						
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260		<	0.1	ug/g						
		tetrachloro-m-xylene SUR			101	%			30	150		
		decachlorobiphenyl SUR			93	%			30	150		
SW3546/8082	LCS6074	PCB-1016			1.8	ug/g	2	92	40	140		
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			1.4	ug/g	2	70	40	140		
		tetrachloro-m-xylene SUR			105	%			30	150		
		decachlorobiphenyl SUR			89	%			30	150		
SW3546/8082	LCSD6074	PCB-1016			1.9	ug/g	2	97	40	140	5	30
		PCB-1221		<	0.1	ug/g						
		PCB-1232		<	0.1	ug/g						
		PCB-1242		<	0.1	ug/g						
		PCB-1248		<	0.1	ug/g						
		PCB-1254		<	0.1	ug/g						
		PCB-1260			1.5	ug/g	2	77	40	140	9	30
		tetrachloro-m-xylene SUR			104	%			30	150		
		decachlorobiphenyl SUR			91	%			30	150		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW3051A6010C	BLK6081	Silver		<	0.25	ug/g						
		Arsenic		<	0.50	ug/g						
		Barium		<	2.5	ug/g						
		Cadmium		<	0.20	ug/g						
		Chromium		<	2.5	ug/g						
		Lead		<	0.50	ug/g						
		Selenium		<	2.5	ug/g						
SW3051A6010C	CRM6081	Silver			37	ug/g	38		25.1	51.9		
		Arsenic			370	ug/g	400		292	508		
		Barium			25	ug/g	25		0	51.3		
		Cadmium			15	ug/g	15		8.71	22		
		Chromium			15	ug/g	14		2.45	24.7		
		Lead			4500	ug/g	5100		3753	6469		
		Selenium			5.9	ug/g	6.6		0	18.4		
SW3051A6010C	CRMD6081	Silver			37	ug/g	38		25.1	51.9	1	35
		Arsenic			390	ug/g	400		292	508	7	35
		Barium			24	ug/g	25		0	51.3	1	35
		Cadmium			15	ug/g	15		8.71	22	4	35
		Chromium			12	ug/g	14		2.45	24.7	19	35
		Lead			4500	ug/g	5100		3753	6469	0	35
		Selenium			5.3	ug/g	6.6		0	18.4	11	35
SW3051A6010C	DUP6081	Silver	26794-001	<	0.27	ug/g					2E	35
		Arsenic	26794-001		2.0	ug/g					13	35
		Barium	26794-001		34	ug/g					9	35
		Cadmium	26794-001	<	0.21	ug/g					0	35
		Chromium	26794-001		11	ug/g					7	35
		Lead	26794-001		5.4	ug/g					7	35
		Selenium	26794-001	<	2.7	ug/g					50	35
SW3051A6010C	MS6081	Silver	26794-001		13	ug/g	13	100	75	125		
		Arsenic	26794-001		26	ug/g	26	90	75	125		
		Barium	26794-001		59	ug/g	26	81	75	125		
		Cadmium	26794-001		25	ug/g	26	93	75	125		
		Chromium	26794-001		37	ug/g	26	94	75	125		
		Lead	26794-001		31	ug/g	26	92	75	125		
		Selenium	26794-001		24	ug/g	26	88	75	125		
SW7471B	BLK6085	Mercury		<	0.02	ug/g						
SW7471B	CRM6085	Mercury			1.5	ug/g	1.1		0.49	1.76		
SW7471B	CRMD6085	Mercury			1.2	ug/g	1.1		0.49	1.76	16	35
SW7471B	DUP6085	Mercury	26851-002	<	0.49	ug/g						35
SW7471B	MS6085	Mercury	26794-004		0.72	ug/g	0.371	56	75	125		
SW7471B	MS6085	Mercury	26851-002		1.7	ug/g	1.09	144	75	125		

Lab ID:	NBT LCS 6056S
Sample Designation:	Laboratory Control Sample 6056S
Date Sampled:	N/A
Date Received:	N/A
Date Extracted:	5/15/13
Matrix:	Solid
Analyst:	JLZ

NAPHTHALENE BREAKTHROUGH CALCULATION

Method for Ranges: MADEP EPH 2004-1.1
Method for Target Analytes: EPA 8270C

	LCS Aliphatic Breakthrough (%)	Acceptance Criteria	Date of Analysis
naphthalene	0.7%	<5.0%	5/23/13
2-methylnaphthalene	0.1%	<5.0%	5/23/13

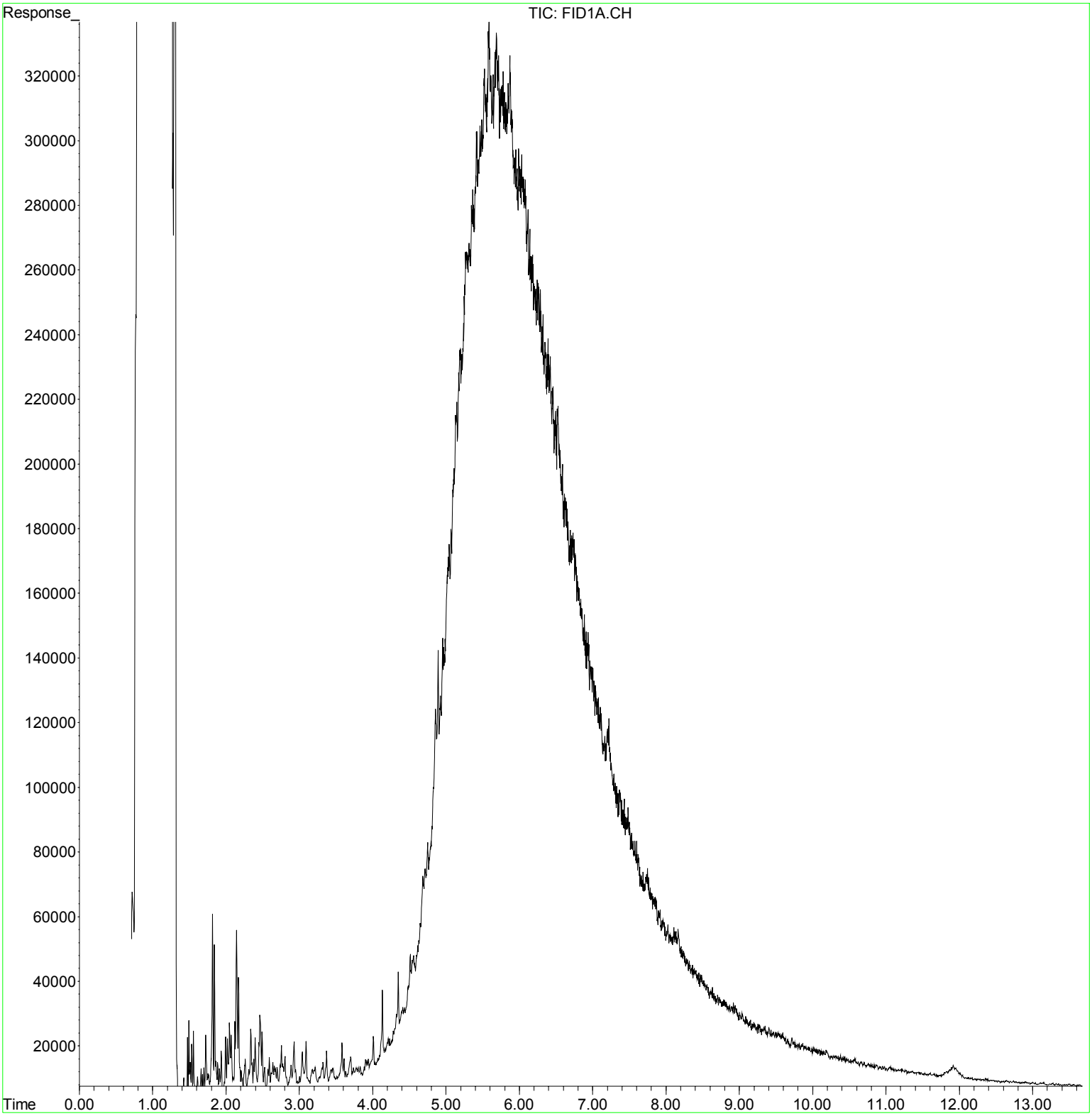
Lab ID:	NBT LCSD 6056S
Sample Designation:	Laboratory Control Sample Duplicate 6056S
Date Sampled:	N/A
Date Received:	N/A
Date Extracted:	5/15/13
Matrix:	Solid
Analyst:	JLZ

NAPHTHALENE BREAKTHROUGH CALCULATION

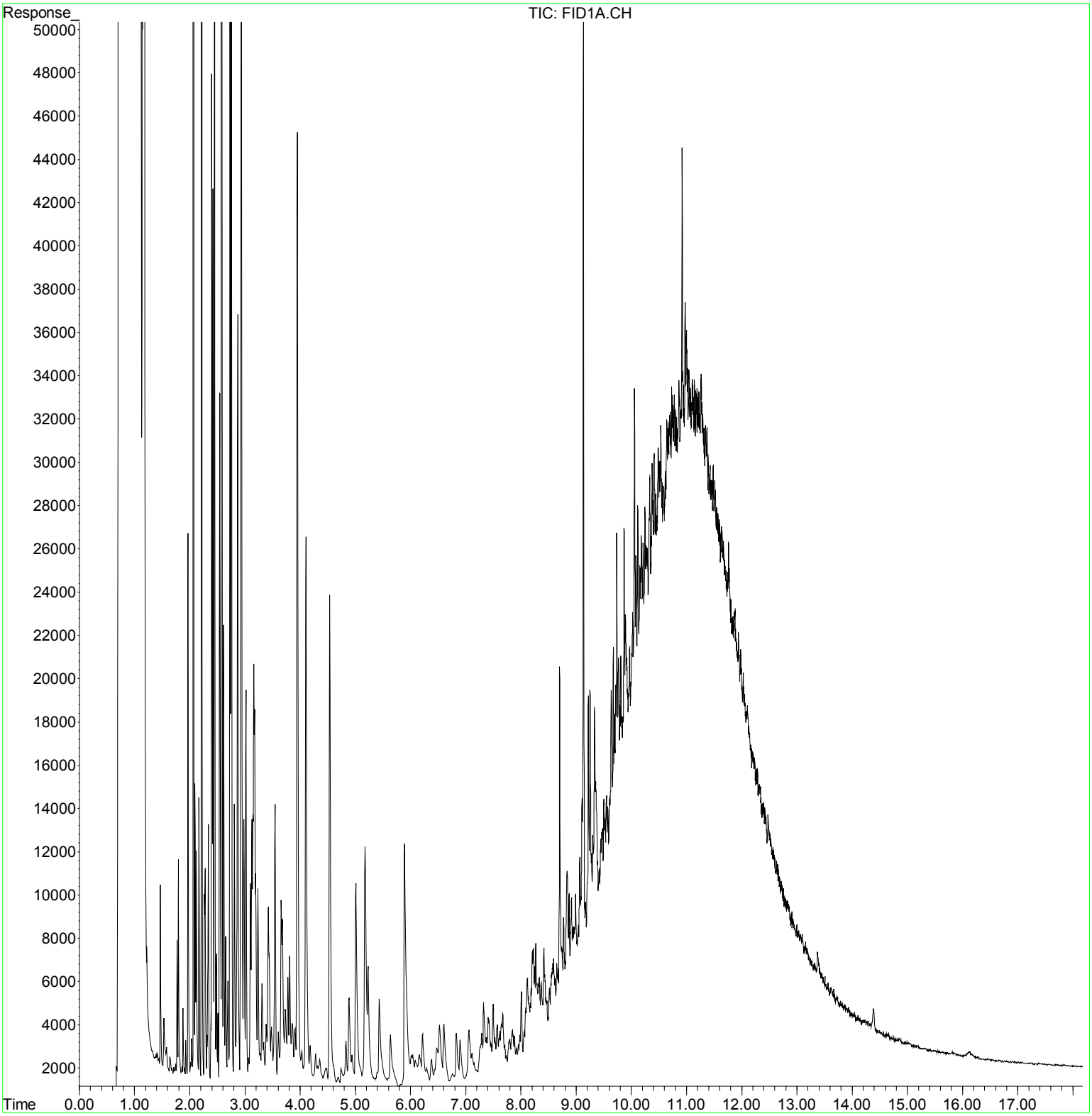
Method for Ranges: MADEP EPH 2004-1.1
Method for Target Analytes: EPA 8270C

	LCSD Aliphatic Breakthrough (%)	Acceptance Criteria	Date of Analysis
naphthalene	0.1%	<5.0%	5/23/13
2-methylnaphthalene	0.1%	<5.0%	5/23/13

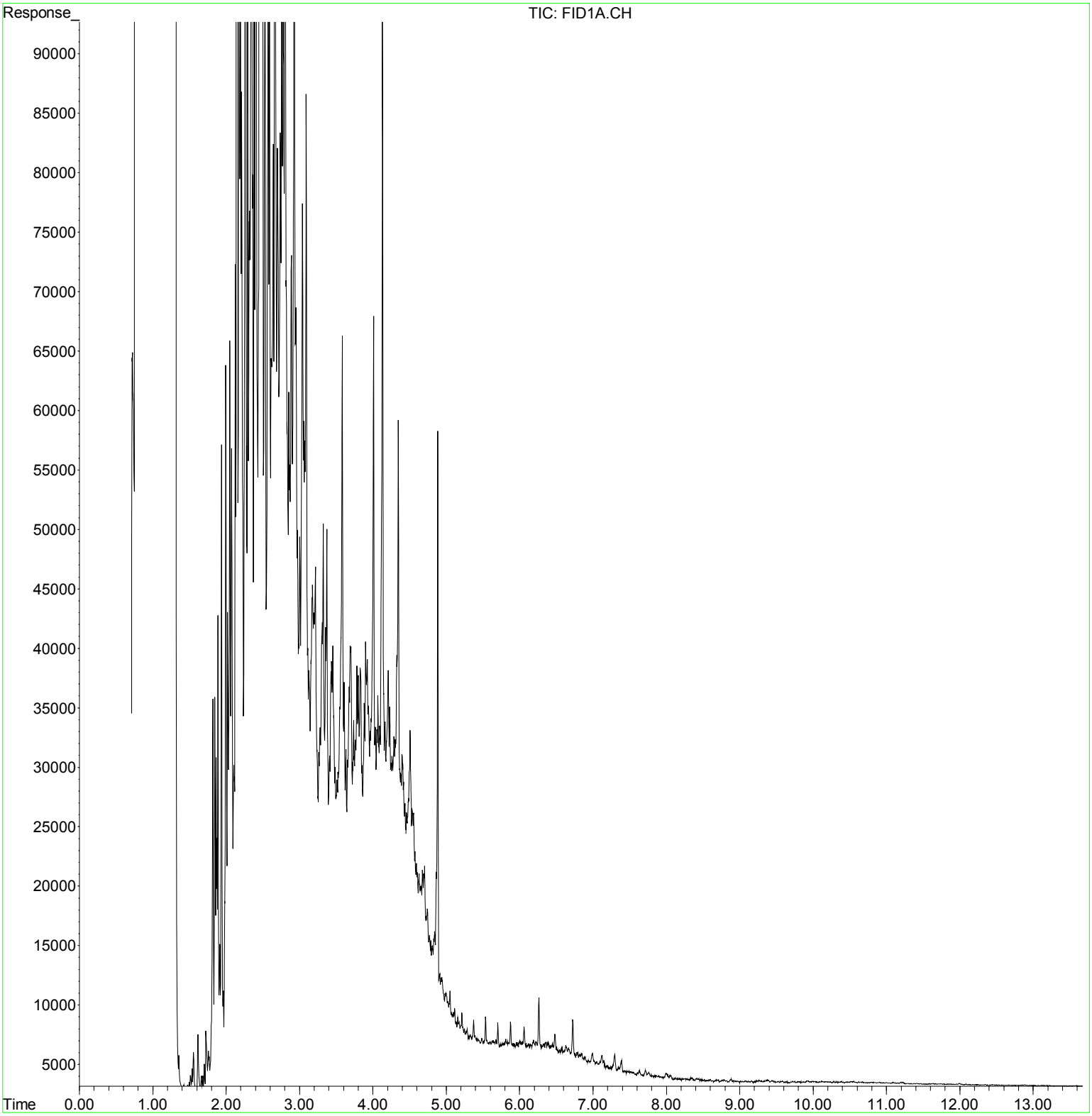
File : X:\SVOA01\2013\MAY13\052113\S1052150.D
Operator : jlz
Acquired : 22 May 2013 1:40 am using AcqMethod S1ZIPALI.M
Instrument : SVOA01
Sample Name: 26794-04 ali x1
Misc Info : Field ID: WC-4 [Aliphatic Portion]
Vial Number: 50



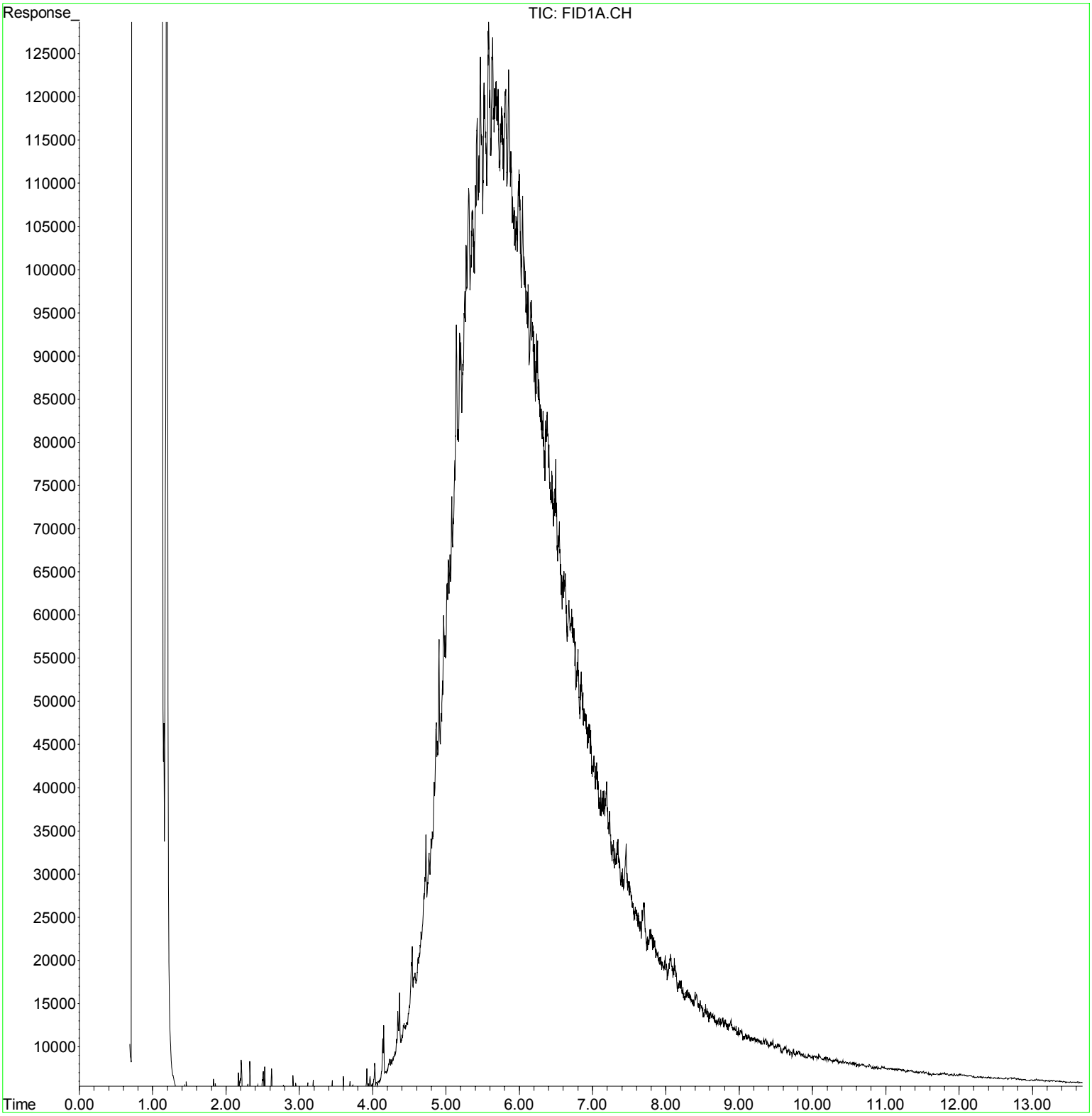
File : X:\SVOA01\2013\MAY13\052113\S1052173.D
Operator : jlz
Acquired : 22 May 2013 9:51 am using AcqMethod S1ZIPARO.M
Instrument : SVOA01
Sample Name: 26794-04 aro x1
Misc Info : Field ID: WC-4 [Aromatic Portion]
Vial Number: 73



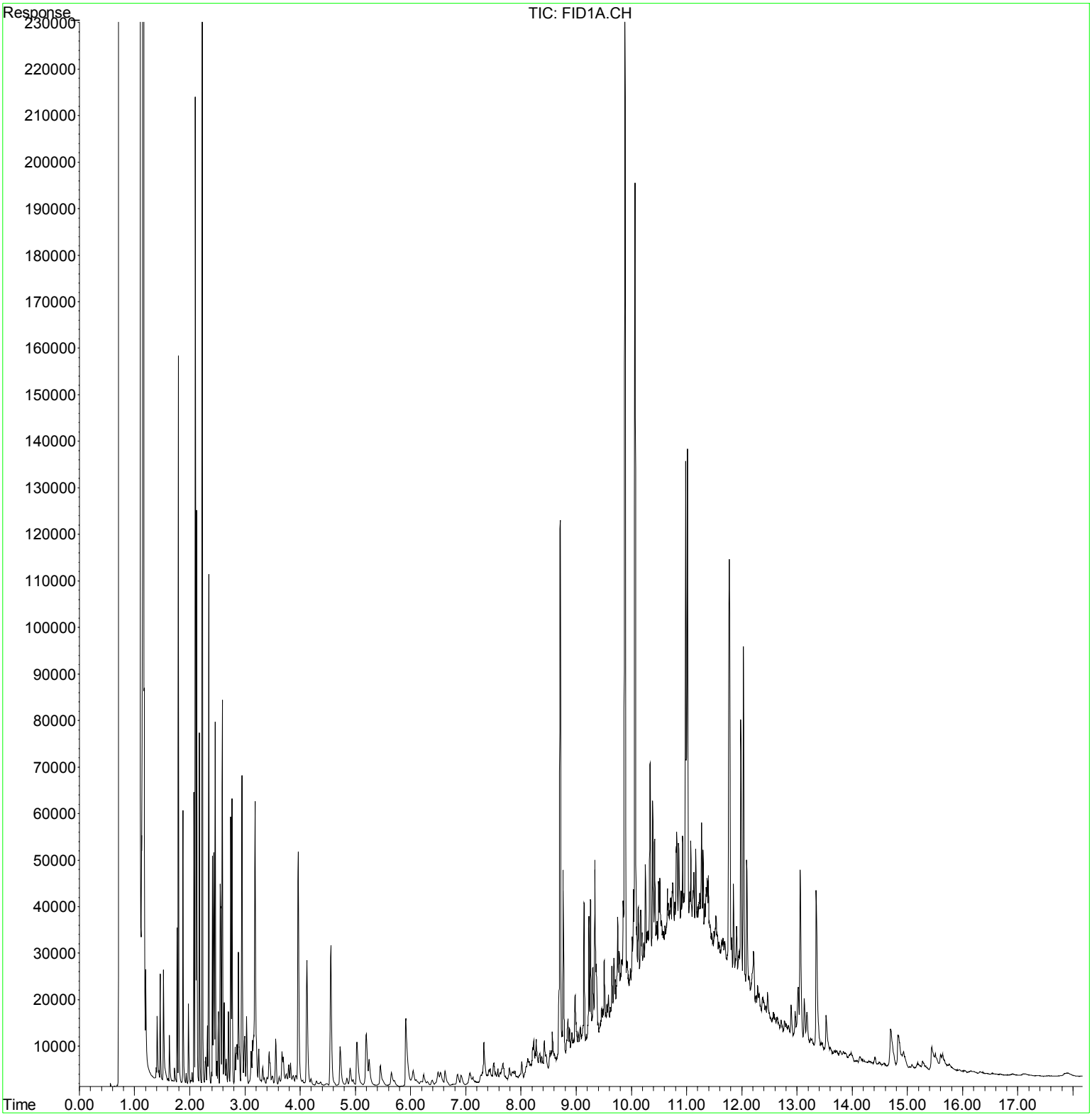
File : X:\SVOA01\2013\MAY13\052113\S1052142.D
Operator : jlz
Acquired : 21 May 2013 11:14 pm using AcqMethod S1ZIPALI.M
Instrument : SVOA01
Sample Name: 26794-06 ali x1
Misc Info : Field ID: WC-6 [Aliphatic Portion]
Vial Number: 42



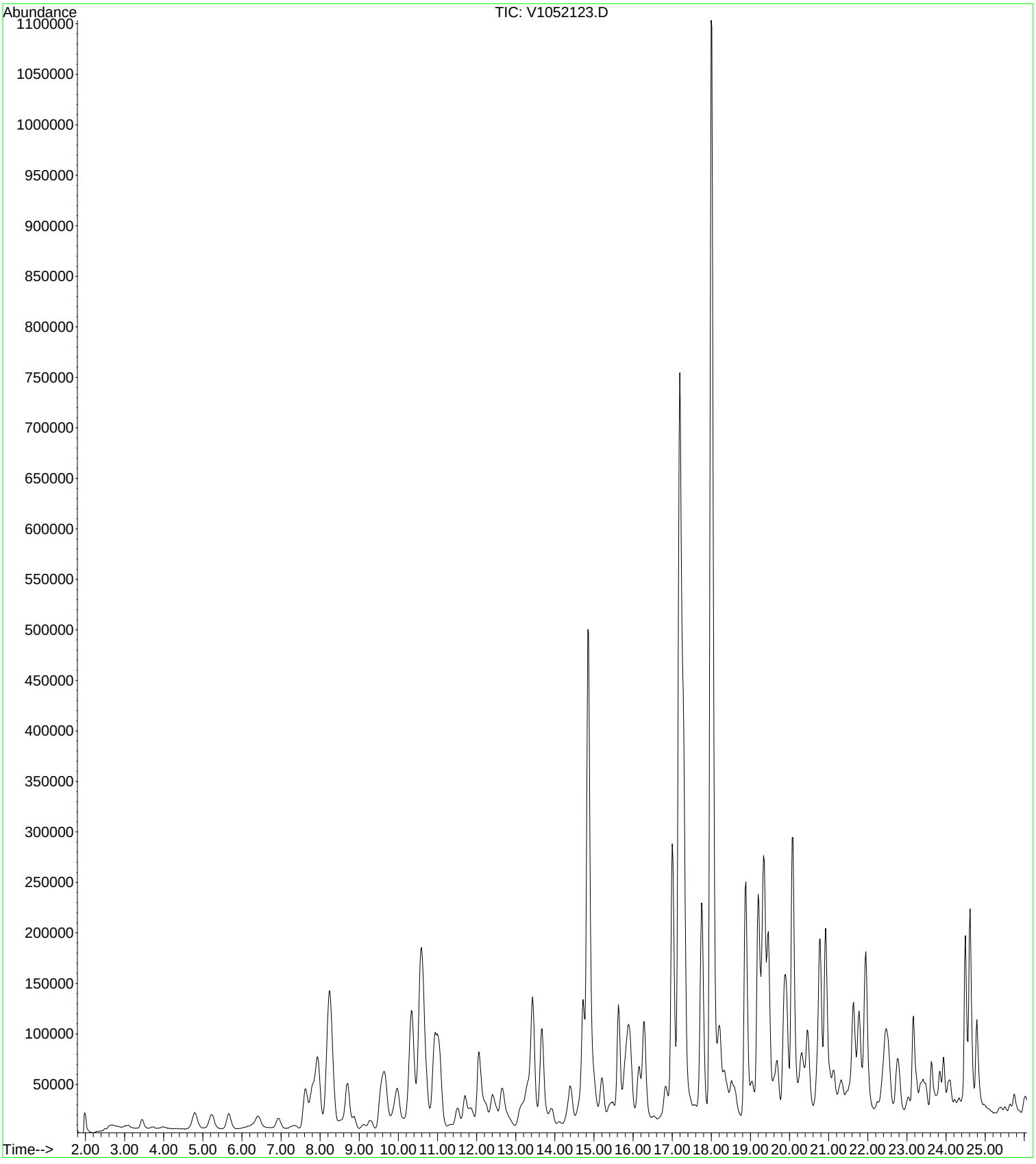
File : X:\SVOA01\2013\MAY13\052413\S1052418.D
Operator : jlz
Acquired : 24 May 2013 5:26 pm using AcqMethod S1ZIPALI.M
Instrument : SVOA01
Sample Name: 26794-10 ali x5
Misc Info : Field ID: Duplicate [Aliphatic Portion]
Vial Number: 18



File : X:\SVOA01\2013\MAY13\052213B\S1052270.D
Operator : jlz
Acquired : 23 May 2013 9:32 pm using AcqMethod S1ZIPARO.M
Instrument : SVOA01
Sample Name: 26794-10 aro x1
Misc Info : Field ID: Duplicate [Aromatic Portion]
Vial Number: 70



File : X:\VOA01\2013\MAY13\052113\V1052123.D
Operator : lmm
Acquired : 21 May 2013 10:32 pm using AcqMethod V1AQ24
Instrument : VOA01
Sample Name: 26794-10 x5-20uLMeOH/5mL
Misc Info : 20
Vial Number: 17



PAGE 1 OF 1

Absolute Resource associates

124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

26794

Company Name: Woodard + Curran Inc.
Company Address: 980 Washington St Suite 325
Report To: Dan Clinton
Phone #: 781-251-0200
Invoice To: ☒ Email: dclinton@woodardcurran.com

Project Name: Ellington/Old Road
Project #: 223376.01
Project Location: NH (MA) ME VT Other
Protocol: RCRA (MCP) SDWA NHDES NPDES OTHER
Reporting Limits: (QAPP) EPA DW GW-1 S-1 Other
Quote # ______ ☐ NH Reimbursement Pricing
PO # ______

Lab Sample ID (Lab Use Only) 26794	Field ID	# CONTAINERS	Matrix: SOLID	Preservation: MeOH	Sampling DATE	TIME	SAMPLER	VOC 8260 MADEP	VPH MADEP	EPH MADEP	8082 PCB	RCRA Metals
-01	WC-1	3	✓	✓	5/13/13	1100	DC		X	X		X
-02	WC-2	5	✓	✓	↓	1230	↓	X	X	X	X	X
-03	WC-3	5	✓	✓	↓	1200	↓	X	X	X	X	X
-04	WC-4	5	✓	✓	↓	1400	↓	X	X	X	X	X
-05	WC-5	3	✓	✓	↓	1330	↓		X	X		X
-06	WC-6	3	✓	✓	↓	0840	↓		X	X		X
-07	WC-7	3	✓	✓	↓	1415	↓		X	X		X
-08	WC-8	3	✓	✓	↓	1030	↓		X	X		X
-09	WC-9	3	✓	✓	↓	0940	↓		X	X		X
-10	Duplicate	5	✓	✓	↓	1400	↓	X	X	X	X	X
-11	Trip Blank	1	✓	✓	LAB →			X				

Preservation (HNO3 column, handwritten across rows): "OR None"

Grab (G) or Composite (C) — Grab (G) circled

TAT REQUESTED
- Priority (24 hr)* ☐
- Expedited (48 hr)* ☐
- Standard (10 Business Days) ☒
- *Date Needed ______

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS: MCP RCS-1 Reporting Limits must be achieved per QAPP.

REPORTING INSTRUCTIONS ☒ PDF (e-mail address) dclinton@woodardcurran.com
☐ HARD COPY REQUIRED ☐ FAX (FAX#) ______

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 5 °C

CUSTODY RECORD

Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Sampler: [signature]	5/14/13	12:00	Received by: [signature]	5/14/13	12:00
Relinquished by: [signature]	5/14/13	12:01	Received by: [signature]	5/14/13	12:01
Relinquished by:			Received by Laboratory:		

QSD-01 Revision 03/21/13

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Dan Clinton
Woodard & Curran
980 Washington St
Suite 325N
Dedham, MA 02026

PO Number: None
Job ID: 26863
Date Received: 5/21/13

Project: Ellington/Old Road 223376.01

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

Sue Sylvester (for)
Principal, General Manager

Date of Approval: 6/12/2013
Total number of pages: 33

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH903		

Project ID: Ellington/Old Road 223376.01

Lab ID: 26863

Sample Association Table

Field ID	Matrix	Date-Time Sampled	Lab#	Analysis
WC-6	Water	5/20/2013 13:12	26863-001	
				EPH in water by MADEP Method
				VOCs in water by 8260
				VPH in water by MA DEP Method
Duplicate	Water	5/20/2013 13:12	26863-002	
				EPH in water by MADEP Method
				VPH in water by MA DEP Method
Trip Blank	Water	5/20/2013 0:00	26863-003	
				VOCs in water by 8260

Project ID: Ellington/Old Road 223376.01

Job ID: 26863

Sample#: 26863-001

Sample ID: WC-6

Matrix: Water

Received on ice at 4˚C, in satisfactory condition.

Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
chloromethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
vinyl chloride	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
bromomethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
chloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
trichlorofluoromethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
diethyl ether	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
acetone	< 10	10	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1-dichloroethene	< 1	1	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
methylene chloride	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
carbon disulfide	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1-dichloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
t-butanol (TBA)	< 30	30	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
2-butanone (MEK)	< 10	10	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
2,2-dichloropropane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
chloroform	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
bromochloromethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1-dichloropropene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
carbon tetrachloride	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2-dichloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
benzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
trichloroethene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2-dichloropropane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,4-dioxane	< 50	50	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
dibromomethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
toluene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
2-hexanone	< 10	10	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,3-dichloropropane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
tetrachloroethene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B

Project ID: Ellington/Old Road 223376.01
Job ID: 26863
Sample#: 26863-001
Sample ID: WC-6
Matrix: Water
Received on ice at 4˚C, in satisfactory condition.
Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dibromochloromethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
chlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
ethylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
m&p-xylenes	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
o-xylene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
styrene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
bromoform	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
isopropylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
n-propylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
bromobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
2-chlorotoluene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
4-chlorotoluene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
tert-butylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2,4-trimethylbenzene	**27**	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
sec-butylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
4-isopropyltoluene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
n-butylbenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
naphthalene	**3**	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**99**	78-114	%	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
toluene-D8 SUR	**104**	88-110	%	1	LMM		1301286	5/29/13	5:54	SW5030B8260B
4-bromofluorobenzene SUR	**98**	86-115	%	1	LMM		1301286	5/29/13	5:54	SW5030B8260B

Project ID: Ellington/Old Road 223376.01

Job ID: 26863

Sample#: 26863-003

Sample ID: Trip Blank

Matrix: Water

Received on ice at 4˚C, in satisfactory condition.

Sampled: 5/20/13 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dichlorodifluoromethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
chloromethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
vinyl chloride	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
bromomethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
chloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
trichlorofluoromethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
diethyl ether	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
acetone	< 10	10	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1-dichloroethene	< 1	1	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
methylene chloride	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
carbon disulfide	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
trans-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
isopropyl ether (DIPE)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
ethyl t-butyl ether (ETBE)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1-dichloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
t-butanol (TBA)	< 30	30	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
2-butanone (MEK)	< 10	10	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
2,2-dichloropropane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
cis-1,2-dichloroethene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
chloroform	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
bromochloromethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
tetrahydrofuran (THF)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1,1-trichloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1-dichloropropene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
t-amyl-methyl ether (TAME)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
carbon tetrachloride	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2-dichloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
benzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
trichloroethene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2-dichloropropane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
bromodichloromethane	< 0.6	0.6	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,4-dioxane	< 50	50	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
dibromomethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
4-methyl-2-pentanone (MIBK)	< 10	10	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
cis-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
toluene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
trans-1,3-dichloropropene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
2-hexanone	< 10	10	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1,2-trichloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,3-dichloropropane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
tetrachloroethene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B

Project ID: Ellington/Old Road 223376.01

Job ID: 26863

Sample#: 26863-003

Sample ID: Trip Blank

Matrix: Water

Received on ice at 4˚C, in satisfactory condition.

Sampled: 5/20/13 0:00

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
dibromochloromethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2-dibromoethane (EDB)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
chlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1,1,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
ethylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
m&p-xylenes	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
o-xylene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
styrene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
bromoform	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
isopropylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,1,2,2-tetrachloroethane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2,3-trichloropropane	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
n-propylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
bromobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,3,5-trimethylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
2-chlorotoluene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
4-chlorotoluene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
tert-butylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2,4-trimethylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
sec-butylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,3-dichlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
4-isopropyltoluene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,4-dichlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2-dichlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
n-butylbenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2-dibromo-3-chloropropane (DBCP)	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2,4-trichlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
hexachlorobutadiene	< 0.5	0.5	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
naphthalene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
1,2,3-trichlorobenzene	< 2	2	ug/L	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
Surrogate Recovery		**Limits**								
dibromofluoromethane SUR	**94**	78-114	%	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
toluene-D8 SUR	**103**	88-110	%	1	LMM		1301269	5/24/13	13:00	SW5030B8260B
4-bromofluorobenzene SUR	**101**	86-115	%	1	LMM		1301269	5/24/13	13:00	SW5030B8260B

Project ID: Ellington/Old Road 223376.01

Job ID: 26863

Sample#: 26863-001

Sample ID: WC-6

Matrix: Water

Received on ice at 4˚C, in satisfactory condition.

Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
Unadjusted C9-C12 Aliphatics	**160**	100	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
benzene	< 1	1	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
toluene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
ethylbenzene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
m&p-xylenes	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
o-xylene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
naphthalene	< 5	5	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
C5-C8 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
C9-C12 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
C9-C10 Aromatics	**110**	100	ug/L	1	LMM		1301313	5/30/13	12:14	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**97**	70-130	%	1	LMM		1301313	5/30/13	12:14	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**89**	70-130	%	1	LMM		1301313	5/30/13	12:14	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01

Job ID: 26863

Sample#: 26863-002

Sample ID: Duplicate

Matrix: Water

Received on ice at 4˚C, in satisfactory condition.

Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
Unadjusted C5-C8 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
Unadjusted C9-C12 Aliphatics	**160**	100	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
methyl t-butyl ether (MTBE)	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
benzene	< 1	1	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
toluene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
ethylbenzene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
m&p-xylenes	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
o-xylene	< 2	2	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
naphthalene	< 5	5	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
C5-C8 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
C9-C12 Aliphatics	< 100	100	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
C9-C10 Aromatics	**110**	100	ug/L	1	LMM		1301313	5/30/13	12:47	MA VPH
Surrogate Recovery		**Limits**								
2,5-dibromotoluene as Aromatic SUR	**98**	70-130	%	1	LMM		1301313	5/30/13	12:47	MA VPH
2,5-dibromotoluene as Aliphatic SUR	**88**	70-130	%	1	LMM		1301313	5/30/13	12:47	MA VPH

Hydrocarbon Range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.

C5-C8 Aliphatic Hydrocarbons exclude the concentration of target analytes eluting in that range.

C9-C12 Aliphatic Hydrocarbons exclude concentration of target analytes eluting in that range AND C9-C10 Aromatics.

Project ID: Ellington/Old Road 223376.01
Job ID: 26863
Sample#: 26863-001
Sample ID: WC-6
Matrix: Water
Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**1.1**	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
2-methylnaphthalene	**2.0**	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
phenanthrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
acenaphthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
acenaphthylene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
fluorene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
pyrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
benzo(a)anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
chrysene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
benzo(b)fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
benzo(k)fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
benzo(a)pyrene	< 0.2	0.2	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
indeno(1,2,3-cd)pyrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
dibenzo(a,h)anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
benzo(g,h,i)perylene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	9:37	MA EPH
Unadjusted C11-C22 Aromatics	**140**	100	ug/L	1	JLZ	5/22/13	6080	5/30/13	16:35	MA EPH
C9-C18 Aliphatics	< 100	100	ug/L	1	JLZ	5/22/13	6080	5/30/13	17:20	MA EPH
C19-C36 Aliphatics	< 100	100	ug/L	1	JLZ	5/22/13	6080	5/30/13	17:20	MA EPH
C11-C22 Aromatics	**130**	100	ug/L	1	JLZ	5/22/13	6080	5/30/13	16:35	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**51**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	17:20	MA EPH
o-terphenyl SUR	**46**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:35	MA EPH
2-fluorobiphenyl SUR	**73**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:35	MA EPH
2-bromonaphthalene SUR	**68**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:35	MA EPH

Project ID: Ellington/Old Road 223376.01
Job ID: 26863
Sample#: 26863-002
Sample ID: Duplicate
Matrix: Water
Sampled: 5/20/13 13:12

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Batch	Analysis Date	Time	Reference
naphthalene	**1.2**	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
2-methylnaphthalene	**2.0**	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
phenanthrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
acenaphthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
acenaphthylene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
fluorene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
pyrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
benzo(a)anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
chrysene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
benzo(b)fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
benzo(k)fluoranthene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
benzo(a)pyrene	< 0.2	0.2	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
indeno(1,2,3-cd)pyrene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
dibenzo(a,h)anthracene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
benzo(g,h,i)perylene	< 0.5	0.5	ug/L	1	AJD	5/22/13	6080	6/6/13	10:14	MA EPH
Unadjusted C11-C22 Aromatics	**130**	110	ug/L	1	JLZ	5/22/13	6080	5/30/13	16:57	MA EPH
C9-C18 Aliphatics	< 110	110	ug/L	1	JLZ	5/22/13	6080	5/30/13	17:43	MA EPH
C19-C36 Aliphatics	< 110	110	ug/L	1	JLZ	5/22/13	6080	5/30/13	17:43	MA EPH
C11-C22 Aromatics	**130**	110	ug/L	1	JLZ	5/22/13	6080	5/30/13	16:57	MA EPH
Surrogate Recovery		**Limits**								
1-chloro-octadecane SUR	**57**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	17:43	MA EPH
o-terphenyl SUR	**52**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:57	MA EPH
2-fluorobiphenyl SUR	**74**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:57	MA EPH
2-bromonaphthalene SUR	**69**	40-140	%	1	JLZ	5/22/13	6080	5/30/13	16:57	MA EPH

Quality Control Report

124 Heritage Avenue Unit 16
Portsmouth, NH 03801
www.absoluteresourceassociates.com

MassDEP Analytical Protocol Certification Form

Laboratory Name: **Absolute Resource Associates** Project #: 223376.01

Project Location: Massachusetts RTN:

This Form provides certifications for the following data set: **26863**

Matrices: Groundwater/Surface Water ☑ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VIA ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	Yes☑ No☐
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	Yes☑ No☐
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	Yes☑ No☐
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes☑ No☐
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modifications(s)? (Refer to the individual methods for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	Yes☐ No☑ Yes☐ No☐
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	Yes☑ No☐

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	Yes☑ No*☐

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.

H	Were all QC performance standards specified in the CAM protocol(s) achieved?	Yes☑ No*☐
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	Yes☑ No*☐

* All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: SCSylvester (for) **Position: Lab Director**

Printed Name: Susan C. Sylvester **Date: 6/12/13**

Sample Integrity Table

Parameter	Method	Matrix	Minimum Volume	Recommended Container(s)	Required Preservation	Holding Time
Volatile Organics	EPA 8260	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to ≤6°C 1:1 HCl to pH <2	14 Days
Volatile Organics	EPA 8260	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol and 1 unpreserved container for percent moisture	Cool to ≤6°C Methanol	14 Days
Semivolatile Organics	EPA 8270	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Semivolatile Organics	EPA 8270	Solid	20g	4oz Amber Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
Organochlorine Pesticides	EPA 8081	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Organochlorine Pesticides	EPA 8081	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
PCBs	EPA 8082	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	365 Days
PCBs	EPA 8082	Solid	20g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	365 Days
Herbicides (subcontracted)	EPA 8151	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C	7 Days
Herbicides (subcontracted)	EPA 8151	Solid	30g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
MA DEP VPH	MADEP VPH	Aqueous	40mL	2 x 40mL VOA Vials with Teflon lined septa	Cool to ≤6°C 1:1 HCl to pH <2	14 Days
MA DEP VPH	MADEP VPH	Solid	40mL	1 x 40mL VOA Vial with 10mLs Methanol and 1 unpreserved container for percent moisture	Cool to ≤6°C Methanol	28 Days
MA DEP EPH	MADEP EPH	Aqueous	1L	1L Amber Glass Bottle w/Teflon liner	Cool to ≤6°C 1:1 H_2SO_4 to pH <2	14 Days
MA DEP EPH	MADEP EPH	Solid	30g	4oz Amber Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days
Total Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	1:1 HNO_3 to pH <2	180 Days
Dissolved Metals	EPA 6010	Aqueous	100mL	250mL Polyethylene Bottle	Filter First 1:1 HNO_3 to pH <2	180 Days
Total Metals	EPA 6010	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	180 Days
Total Mercury (may be combined with Total Metals)	EPA 7470	Aqueous	100mL	125mL Polyethylene Bottle	1:1 HNO_3 to pH <2	28 Days
Total Mercury (may be combined with Total Metals)	EPA 7471	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	28 Days
Chromium, Hexavalent	EPA 7196	Aqueous	100mL	125mL Polyethylene Bottle	Cool to ≤6°C (NH4)2SO4 buffer	28 Days
Chromium, Hexavalent (subcontract)	EPA 7196	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	30 Days
Cyanide, Total	EPA 9014	Aqueous	125mL	125mL Polyethylene Bottle	Cool to ≤6°C 1:1 NaOH to pH >8	14 Days
Cyanide, Total	EPA 9014	Solid	15g	4oz Glass Jar w/Teflon liner	Cool to ≤6°C	14 Days

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Case Narrative
Lab # 26863

Sample Receiving and Chain of Custody Discrepancies

Samples were received in acceptable condition, at 4 degrees C, on ice, and in accordance with sample handling, preservation and integrity guidelines.

Calibration

See the included table for a list of compounds quantitated by quadratic equation.

Method Blank

VOC: The compound, hexachlorobutadiene, was detected in the BLK1301269 at 0.8ug/L. There is no impact to the data as this analyte was not detected in the associated field samples.
VOC: The compound, hexachlorobutadiene, was detected in the BLK1301286 at 0.8ug/L. There is no impact to the data as this analyte was not detected in the associated field samples.

Surrogate Recoveries

No exceptions noted.

Laboratory Control Sample Results

VOC: The LCS1301286 did not meet the acceptance criteria for dichlorodifluoromethane. The LCSD1301286 did not meet the acceptance criteria for bromomethane. Since <10% of the compounds were outside of the acceptance criteria, reanalysis is not required.

Matrix Spike/Matrix Spike Duplicate/Duplicate Results

Not requested for this project.

Other

EPH: The fractionation check sample (LCS) for the batch of silica gel in use for these samples met the method acceptance criteria.

MassDEP Analytical Protocol Certification Form Questions A through I

No explanation is needed for Questions A through I answered in the affirmative.
Question E: VPH target compounds and ranges were determined by GC/MS, therefore, Box E is checked "No." Ranges were determined in a similar manner as described in the MADEP APH method of 2/2000.

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Quantitation by Quadratic Equation
Lab # 26863

Quantitation of the following compounds was based on a quadratic equation

dichlorodifluoromethane
Bromomethane
Acetone
t-butanol (TBA)
Carbon disulfide
Bromoform

- QC Report -

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA VPH	BLK1301313	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics		<	100	ug/L						
		Unadjusted C9-C12 Aliphatics		<	100	ug/L						
		methyl t-butyl ether (MTBE)		<	2	ug/L						
		benzene		<	1	ug/L						
		toluene		<	2	ug/L						
		ethylbenzene		<	2	ug/L						
		m&p-xylenes		<	2	ug/L						
		o-xylene		<	2	ug/L						
		naphthalene		<	5	ug/L						
		C9-C10 Aromatics		<	100	ug/L						
		2,5-dibromotoluene as Aromatic SUR			96	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			98	%			70	130		
MA VPH	LCS1301313	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics			530	ug/L	750	71	70	130		
		Unadjusted C9-C12 Aliphatics			480	ug/L	550	88	70	130		
		methyl t-butyl ether (MTBE)			130	ug/L	150	88	70	130		
		benzene			44	ug/L	50	88	70	130		
		toluene			140	ug/L	150	95	70	130		
		ethylbenzene			44	ug/L	50	88	70	130		
		m&p-xylenes			190	ug/L	200	95	70	130		
		o-xylene			87	ug/L	100	87	70	130		
		naphthalene			89	ug/L	100	89	70	130		
		C9-C10 Aromatics			88	ug/L	100	88	70	130		
		2,5-dibromotoluene as Aromatic SUR			88	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			86	%			70	130		
MA VPH	LCSD1301313	C5-C8 Aliphatics										
		Unadjusted C5-C8 Aliphatics			520	ug/L	750	70	70	130	2	25
		Unadjusted C9-C12 Aliphatics			480	ug/L	550	87	70	130	0	25
		methyl t-butyl ether (MTBE)			130	ug/L	150	87	70	130	1	25
		benzene			45	ug/L	50	89	70	130	2	25
		toluene			140	ug/L	150	94	70	130	0	25
		ethylbenzene			46	ug/L	50	93	70	130	5	25
		m&p-xylenes			190	ug/L	200	95	70	130	1	25
		o-xylene			87	ug/L	100	87	70	130	0	25
		naphthalene			87	ug/L	100	87	70	130	2	25
		C9-C10 Aromatics			88	ug/L	100	88	70	130	0	25
		2,5-dibromotoluene as Aromatic SUR			87	%			70	130		
		2,5-dibromotoluene as Aliphatic SUR			85	%			70	130		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030B8260B	BLK1301269	dichlorodifluoromethane		<	2	ug/L					
		chloromethane		<	2	ug/L					
		vinyl chloride		<	2	ug/L					
		bromomethane		<	2	ug/L					
		chloroethane		<	2	ug/L					
		trichlorofluoromethane		<	2	ug/L					
		diethyl ether		<	10	ug/L					
		acetone		<	50	ug/L					
		1,1-dichloroethene		<	1	ug/L					
		methylene chloride		<	5	ug/L					
		carbon disulfide		<	2	ug/L					
		methyl t-butyl ether (MTBE)		<	2	ug/L					
		trans-1,2-dichloroethene		<	2	ug/L					
		isopropyl ether (DIPE)		<	2	ug/L					
		ethyl t-butyl ether (ETBE)		<	2	ug/L					
		1,1-dichloroethane		<	2	ug/L					
		t-butanol (TBA)		<	30	ug/L					
		2-butanone (MEK)		<	10	ug/L					
		2,2-dichloropropane		<	2	ug/L					
		cis-1,2-dichloroethene		<	2	ug/L					
		chloroform		<	2	ug/L					
		bromochloromethane		<	2	ug/L					
		tetrahydrofuran (THF)		<	10	ug/L					
		1,1,1-trichloroethane		<	2	ug/L					
		1,1-dichloropropene		<	2	ug/L					
		t-amyl-methyl ether (TAME)		<	2	ug/L					
		carbon tetrachloride		<	2	ug/L					
		1,2-dichloroethane		<	2	ug/L					
		benzene		<	2	ug/L					
		trichloroethene		<	2	ug/L					
		1,2-dichloropropane		<	2	ug/L					
		bromodichloromethane		<	0.6	ug/L					
		1,4-dioxane		<	50	ug/L					
		dibromomethane		<	2	ug/L					
		4-methyl-2-pentanone (MIBK)		<	10	ug/L					
		cis-1,3-dichloropropene		<	2	ug/L					
		toluene		<	2	ug/L					
		trans-1,3-dichloropropene		<	2	ug/L					
		2-hexanone		<	10	ug/L					
		1,1,2-trichloroethane		<	2	ug/L					
		1,3-dichloropropane		<	2	ug/L					
		tetrachloroethene		<	2	ug/L					
		dibromochloromethane		<	2	ug/L					
		1,2-dibromoethane (EDB)		<	2	ug/L					
		chlorobenzene		<	2	ug/L					
		1,1,1,2-tetrachloroethane		<	2	ug/L					
		ethylbenzene		<	2	ug/L					
		m&p-xylenes		<	2	ug/L					
		o-xylene		<	2	ug/L					
		styrene		<	2	ug/L					
		bromoform		<	2	ug/L					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	BLK1301269	isopropylbenzene		<	2	ug/L						
		1,1,2,2-tetrachloroethane		<	2	ug/L						
		1,2,3-trichloropropane		<	2	ug/L						
		n-propylbenzene		<	2	ug/L						
		bromobenzene		<	2	ug/L						
		1,3,5-trimethylbenzene		<	2	ug/L						
		2-chlorotoluene		<	2	ug/L						
		4-chlorotoluene		<	2	ug/L						
		tert-butylbenzene		<	2	ug/L						
		1,2,4-trimethylbenzene		<	2	ug/L						
		sec-butylbenzene		<	2	ug/L						
		1,3-dichlorobenzene		<	2	ug/L						
		4-isopropyltoluene		<	2	ug/L						
		1,4-dichlorobenzene		<	2	ug/L						
		1,2-dichlorobenzene		<	2	ug/L						
		n-butylbenzene		<	2	ug/L						
		1,2-dibromo-3-chloropropane (DBCP)		<	2	ug/L						
		1,2,4-trichlorobenzene		<	2	ug/L						
		hexachlorobutadiene			0.8	ug/L						
		naphthalene		<	5	ug/L						
		1,2,3-trichlorobenzene		<	2	ug/L						
		dibromofluoromethane SUR			98	%			78	114		
		toluene-D8 SUR			105	%			88	110		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	LCS1301269	dichlorodifluoromethane			16	ug/L	20	82	70	130		
		chloromethane			18	ug/L	20	88	70	130		
		vinyl chloride			19	ug/L	20	94	70	130		
		bromomethane			22	ug/L	20	108	70	130		
		chloroethane			20	ug/L	20	98	70	130		
		trichlorofluoromethane			21	ug/L	20	105	70	130		
		diethyl ether			18	ug/L	20	88	70	130		
		acetone		<	50	ug/L	20	110				
		1,1-dichloroethene			16	ug/L	20	82	70	130		
		methylene chloride			19	ug/L	20	93	70	130		
		carbon disulfide			17	ug/L	20	83	70	130		
		methyl t-butyl ether (MTBE)			21	ug/L	20	106	70	130		
		trans-1,2-dichloroethene			18	ug/L	20	91	70	130		
		isopropyl ether (DIPE)			20	ug/L	20	102	70	130		
		ethyl t-butyl ether (ETBE)			22	ug/L	20	109	70	130		
		1,1-dichloroethane			19	ug/L	20	94	70	130		
		t-butanol (TBA)			110	ug/L	100	114	70	130		
		2-butanone (MEK)			19	ug/L	20	95	70	130		
		2,2-dichloropropane			21	ug/L	20	103	70	130		
		cis-1,2-dichloroethene			21	ug/L	20	103	70	130		
		chloroform			22	ug/L	20	108	70	130		
		bromochloromethane			19	ug/L	20	93	70	130		
		tetrahydrofuran (THF)			18	ug/L	20	88	70	130		
		1,1,1-trichloroethane			21	ug/L	20	104	70	130		
		1,1-dichloropropene			23	ug/L	20	113	70	130		
		t-amyl-methyl ether (TAME)			21	ug/L	20	104	70	130		
		carbon tetrachloride			20	ug/L	20	99	70	130		
		1,2-dichloroethane			24	ug/L	20	118	70	130		
		benzene			19	ug/L	20	94	70	130		
		trichloroethene			21	ug/L	20	103	70	130		
		1,2-dichloropropane			21	ug/L	20	107	70	130		
		bromodichloromethane			20	ug/L	20	102	70	130		
		1,4-dioxane		<	50	ug/L	40	93	70	130		
		dibromomethane			20	ug/L	20	100	70	130		
		4-methyl-2-pentanone (MIBK)			18	ug/L	20	91	70	130		
		cis-1,3-dichloropropene			20	ug/L	20	102	70	130		
		toluene			20	ug/L	20	98	70	130		
		trans-1,3-dichloropropene			20	ug/L	20	100	70	130		
		2-hexanone			18	ug/L	20	90	70	130		
		1,1,2-trichloroethane			20	ug/L	20	100	70	130		
		1,3-dichloropropane			21	ug/L	20	103	70	130		
		tetrachloroethene			19	ug/L	20	97	70	130		
		dibromochloromethane			18	ug/L	20	90	70	130		
		1,2-dibromoethane (EDB)			19	ug/L	20	94	70	130		
		chlorobenzene			19	ug/L	20	96	70	130		
		1,1,1,2-tetrachloroethane			21	ug/L	20	103	70	130		
		ethylbenzene			19	ug/L	20	96	70	130		
		m&p-xylenes			38	ug/L	40	96	70	130		
		o-xylene			20	ug/L	20	99	70	130		
		styrene			19	ug/L	20	96	70	130		
		bromoform			18	ug/L	20	90	70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	LCS1301269	isopropylbenzene		22	ug/L	20	111	70	130		
		1,1,2,2-tetrachloroethane		19	ug/L	20	97	70	130		
		1,2,3-trichloropropane		20	ug/L	20	99	70	130		
		n-propylbenzene		22	ug/L	20	110	70	130		
		bromobenzene		21	ug/L	20	103	70	130		
		1,3,5-trimethylbenzene		22	ug/L	20	108	70	130		
		2-chlorotoluene		20	ug/L	20	102	70	130		
		4-chlorotoluene		22	ug/L	20	108	70	130		
		tert-butylbenzene		24	ug/L	20	118	70	130		
		1,2,4-trimethylbenzene		22	ug/L	20	108	70	130		
		sec-butylbenzene		22	ug/L	20	112	70	130		
		1,3-dichlorobenzene		21	ug/L	20	104	70	130		
		4-isopropyltoluene		22	ug/L	20	112	70	130		
		1,4-dichlorobenzene		20	ug/L	20	102	70	130		
		1,2-dichlorobenzene		20	ug/L	20	100	70	130		
		n-butylbenzene		22	ug/L	20	110	70	130		
		1,2-dibromo-3-chloropropane (DBCP)		19	ug/L	20	96	70	130		
		1,2,4-trichlorobenzene		19	ug/L	20	95	70	130		
		hexachlorobutadiene		21	ug/L	20	103	70	130		
		naphthalene		18	ug/L	20	88	70	130		
		1,2,3-trichlorobenzene		17	ug/L	20	87	70	130		
		dibromofluoromethane SUR		99	%			78	114		
		toluene-D8 SUR		102	%			88	110		
		4-bromofluorobenzene SUR		101	%			86	115		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	LCSD1301269	dichlorodifluoromethane			16	ug/L	20	78	70	130	5	20
		chloromethane			18	ug/L	20	88	70	130	0	20
		vinyl chloride			18	ug/L	20	92	70	130	2	20
		bromomethane			26	ug/L	20	130	70	130	18	20
		chloroethane			19	ug/L	20	95	70	130	4	20
		trichlorofluoromethane			20	ug/L	20	101	70	130	4	20
		diethyl ether			18	ug/L	20	91	70	130	3	20
		acetone		<	50	ug/L	20	119			8	20
		1,1-dichloroethene			16	ug/L	20	81	70	130	2	20
		methylene chloride			18	ug/L	20	92	70	130	0	20
		carbon disulfide			17	ug/L	20	84	70	130	1	20
		methyl t-butyl ether (MTBE)			22	ug/L	20	109	70	130	2	20
		trans-1,2-dichloroethene			18	ug/L	20	92	70	130	1	20
		isopropyl ether (DIPE)			21	ug/L	20	105	70	130	3	20
		ethyl t-butyl ether (ETBE)			22	ug/L	20	111	70	130	1	20
		1,1-dichloroethane			19	ug/L	20	94	70	130	0	20
		t-butanol (TBA)			120	ug/L	100	123	70	130	7	20
		2-butanone (MEK)			20	ug/L	20	100	70	130	5	20
		2,2-dichloropropane			21	ug/L	20	103	70	130	0	20
		cis-1,2-dichloroethene			21	ug/L	20	105	70	130	1	20
		chloroform			21	ug/L	20	106	70	130	2	20
		bromochloromethane			19	ug/L	20	97	70	130	4	20
		tetrahydrofuran (THF)			19	ug/L	20	94	70	130	6	20
		1,1,1-trichloroethane			21	ug/L	20	105	70	130	0	20
		1,1-dichloropropene			23	ug/L	20	114	70	130	1	20
		t-amyl-methyl ether (TAME)			21	ug/L	20	106	70	130	2	20
		carbon tetrachloride			20	ug/L	20	98	70	130	0	20
		1,2-dichloroethane			24	ug/L	20	121	70	130	2	20
		benzene			19	ug/L	20	94	70	130	0	20
		trichloroethene			20	ug/L	20	100	70	130	4	20
		1,2-dichloropropane			21	ug/L	20	105	70	130	2	20
		bromodichloromethane			21	ug/L	20	104	70	130	2	20
		1,4-dioxane		<	50	ug/L	40	99	70	130	6	20
		dibromomethane			21	ug/L	20	103	70	130	2	20
		4-methyl-2-pentanone (MIBK)			19	ug/L	20	94	70	130	2	20
		cis-1,3-dichloropropene			21	ug/L	20	104	70	130	2	20
		toluene			20	ug/L	20	101	70	130	2	20
		trans-1,3-dichloropropene			20	ug/L	20	102	70	130	2	20
		2-hexanone			18	ug/L	20	92	70	130	2	20
		1,1,2-trichloroethane			21	ug/L	20	103	70	130	4	20
		1,3-dichloropropane			21	ug/L	20	106	70	130	3	20
		tetrachloroethene			20	ug/L	20	100	70	130	3	20
		dibromochloromethane			19	ug/L	20	95	70	130	6	20
		1,2-dibromoethane (EDB)			20	ug/L	20	101	70	130	7	20
		chlorobenzene			20	ug/L	20	101	70	130	5	20
		1,1,1,2-tetrachloroethane			22	ug/L	20	109	70	130	6	20
		ethylbenzene			20	ug/L	20	98	70	130	3	20
		m&p-xylenes			39	ug/L	40	98	70	130	2	20
		o-xylene			20	ug/L	20	102	70	130	2	20
		styrene			20	ug/L	20	100	70	130	4	20
		bromoform			20	ug/L	20	98	70	130	9	20

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	LCSD1301269	isopropylbenzene		23	ug/L	20	113	70	130	2	20
		1,1,2,2-tetrachloroethane		19	ug/L	20	94	70	130	3	20
		1,2,3-trichloropropane		18	ug/L	20	92	70	130	8	20
		n-propylbenzene		21	ug/L	20	103	70	130	7	20
		bromobenzene		20	ug/L	20	99	70	130	4	20
		1,3,5-trimethylbenzene		20	ug/L	20	100	70	130	8	20
		2-chlorotoluene		19	ug/L	20	96	70	130	6	20
		4-chlorotoluene		20	ug/L	20	102	70	130	5	20
		tert-butylbenzene		22	ug/L	20	112	70	130	5	20
		1,2,4-trimethylbenzene		20	ug/L	20	101	70	130	7	20
		sec-butylbenzene		21	ug/L	20	104	70	130	7	20
		1,3-dichlorobenzene		20	ug/L	20	99	70	130	5	20
		4-isopropyltoluene		21	ug/L	20	105	70	130	6	20
		1,4-dichlorobenzene		19	ug/L	20	95	70	130	6	20
		1,2-dichlorobenzene		19	ug/L	20	96	70	130	4	20
		n-butylbenzene		20	ug/L	20	102	70	130	7	20
		1,2-dibromo-3-chloropropane (DBCP)		19	ug/L	20	95	70	130	1	20
		1,2,4-trichlorobenzene		18	ug/L	20	91	70	130	4	20
		hexachlorobutadiene		21	ug/L	20	103	70	130	0	20
		naphthalene		17	ug/L	20	86	70	130	3	20
		1,2,3-trichlorobenzene		18	ug/L	20	89	70	130	2	20
		dibromofluoromethane SUR		96	%			78	114		
		toluene-D8 SUR		102	%			88	110		
		4-bromofluorobenzene SUR		106	%			86	115		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits	RPD	RPD Limit
SW5030B8260B	BLK1301286	dichlorodifluoromethane		<	2	ug/L					
		chloromethane		<	2	ug/L					
		vinyl chloride		<	2	ug/L					
		bromomethane		<	2	ug/L					
		chloroethane		<	2	ug/L					
		trichlorofluoromethane		<	2	ug/L					
		diethyl ether		<	10	ug/L					
		acetone		<	50	ug/L					
		1,1-dichloroethene		<	1	ug/L					
		methylene chloride		<	5	ug/L					
		carbon disulfide		<	2	ug/L					
		methyl t-butyl ether (MTBE)		<	2	ug/L					
		trans-1,2-dichloroethene		<	2	ug/L					
		isopropyl ether (DIPE)		<	2	ug/L					
		ethyl t-butyl ether (ETBE)		<	2	ug/L					
		1,1-dichloroethane		<	2	ug/L					
		t-butanol (TBA)		<	30	ug/L					
		2-butanone (MEK)		<	10	ug/L					
		2,2-dichloropropane		<	2	ug/L					
		cis-1,2-dichloroethene		<	2	ug/L					
		chloroform		<	2	ug/L					
		bromochloromethane		<	2	ug/L					
		tetrahydrofuran (THF)		<	10	ug/L					
		1,1,1-trichloroethane		<	2	ug/L					
		1,1-dichloropropene		<	2	ug/L					
		t-amyl-methyl ether (TAME)		<	2	ug/L					
		carbon tetrachloride		<	2	ug/L					
		1,2-dichloroethane		<	2	ug/L					
		benzene		<	2	ug/L					
		trichloroethene		<	2	ug/L					
		1,2-dichloropropane		<	2	ug/L					
		bromodichloromethane		<	0.6	ug/L					
		1,4-dioxane		<	50	ug/L					
		dibromomethane		<	2	ug/L					
		4-methyl-2-pentanone (MIBK)		<	10	ug/L					
		cis-1,3-dichloropropene		<	2	ug/L					
		toluene		<	2	ug/L					
		trans-1,3-dichloropropene		<	2	ug/L					
		2-hexanone		<	10	ug/L					
		1,1,2-trichloroethane		<	2	ug/L					
		1,3-dichloropropane		<	2	ug/L					
		tetrachloroethene		<	2	ug/L					
		dibromochloromethane		<	2	ug/L					
		1,2-dibromoethane (EDB)		<	2	ug/L					
		chlorobenzene		<	2	ug/L					
		1,1,1,2-tetrachloroethane		<	2	ug/L					
		ethylbenzene		<	2	ug/L					
		m&p-xylenes		<	2	ug/L					
		o-xylene		<	2	ug/L					
		styrene		<	2	ug/L					
		bromoform		<	2	ug/L					

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	BLK1301286	isopropylbenzene		<	2	ug/L						
		1,1,2,2-tetrachloroethane		<	2	ug/L						
		1,2,3-trichloropropane		<	2	ug/L						
		n-propylbenzene		<	2	ug/L						
		bromobenzene		<	2	ug/L						
		1,3,5-trimethylbenzene		<	2	ug/L						
		2-chlorotoluene		<	2	ug/L						
		4-chlorotoluene		<	2	ug/L						
		tert-butylbenzene		<	2	ug/L						
		1,2,4-trimethylbenzene		<	2	ug/L						
		sec-butylbenzene		<	2	ug/L						
		1,3-dichlorobenzene		<	2	ug/L						
		4-isopropyltoluene		<	2	ug/L						
		1,4-dichlorobenzene		<	2	ug/L						
		1,2-dichlorobenzene		<	2	ug/L						
		n-butylbenzene		<	2	ug/L						
		1,2-dibromo-3-chloropropane (DBCP)		<	2	ug/L						
		1,2,4-trichlorobenzene		<	2	ug/L						
		hexachlorobutadiene			0.8	ug/L						
		naphthalene		<	5	ug/L						
		1,2,3-trichlorobenzene		<	2	ug/L						
		dibromofluoromethane SUR			99	%			78	114		
		toluene-D8 SUR			105	%			88	110		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5030B8260B	LCS1301286	dichlorodifluoromethane			14	ug/L	20	69	*	70	130		
		chloromethane			16	ug/L	20	80		70	130		
		vinyl chloride			17	ug/L	20	84		70	130		
		bromomethane			24	ug/L	20	118		70	130		
		chloroethane			17	ug/L	20	86		70	130		
		trichlorofluoromethane			17	ug/L	20	87		70	130		
		diethyl ether			16	ug/L	20	81		70	130		
		acetone		<	50	ug/L	20	109					
		1,1-dichloroethene			14	ug/L	20	70		70	130		
		methylene chloride			17	ug/L	20	84		70	130		
		carbon disulfide			15	ug/L	20	74		70	130		
		methyl t-butyl ether (MTBE)			20	ug/L	20	101		70	130		
		trans-1,2-dichloroethene			17	ug/L	20	83		70	130		
		isopropyl ether (DIPE)			20	ug/L	20	98		70	130		
		ethyl t-butyl ether (ETBE)			20	ug/L	20	102		70	130		
		1,1-dichloroethane			17	ug/L	20	86		70	130		
		t-butanol (TBA)			110	ug/L	100	108		70	130		
		2-butanone (MEK)			18	ug/L	20	90		70	130		
		2,2-dichloropropane			20	ug/L	20	101		70	130		
		cis-1,2-dichloroethene			19	ug/L	20	95		70	130		
		chloroform			20	ug/L	20	100		70	130		
		bromochloromethane			18	ug/L	20	88		70	130		
		tetrahydrofuran (THF)			17	ug/L	20	87		70	130		
		1,1,1-trichloroethane			19	ug/L	20	93		70	130		
		1,1-dichloropropene			20	ug/L	20	101		70	130		
		t-amyl-methyl ether (TAME)			20	ug/L	20	100		70	130		
		carbon tetrachloride			17	ug/L	20	85		70	130		
		1,2-dichloroethane			22	ug/L	20	110		70	130		
		benzene			17	ug/L	20	87		70	130		
		trichloroethene			18	ug/L	20	90		70	130		
		1,2-dichloropropane			19	ug/L	20	97		70	130		
		bromodichloromethane			19	ug/L	20	96		70	130		
		1,4-dioxane		<	50	ug/L	40	102		70	130		
		dibromomethane			19	ug/L	20	97		70	130		
		4-methyl-2-pentanone (MIBK)			18	ug/L	20	89		70	130		
		cis-1,3-dichloropropene			19	ug/L	20	96		70	130		
		toluene			18	ug/L	20	91		70	130		
		trans-1,3-dichloropropene			19	ug/L	20	94		70	130		
		2-hexanone			17	ug/L	20	85		70	130		
		1,1,2-trichloroethane			19	ug/L	20	94		70	130		
		1,3-dichloropropane			19	ug/L	20	93		70	130		
		tetrachloroethene			17	ug/L	20	83		70	130		
		dibromochloromethane			16	ug/L	20	82		70	130		
		1,2-dibromoethane (EDB)			17	ug/L	20	85		70	130		
		chlorobenzene			17	ug/L	20	87		70	130		
		1,1,1,2-tetrachloroethane			19	ug/L	20	93		70	130		
		ethylbenzene			17	ug/L	20	85		70	130		
		m&p-xylenes			34	ug/L	40	85		70	130		
		o-xylene			18	ug/L	20	88		70	130		
		styrene			17	ug/L	20	87		70	130		
		bromoform			16	ug/L	20	81		70	130		

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
SW5030B8260B	LCS1301286	isopropylbenzene		19	ug/L	20	96	70	130		
		1,1,2,2-tetrachloroethane		16	ug/L	20	82	70	130		
		1,2,3-trichloropropane		17	ug/L	20	84	70	130		
		n-propylbenzene		18	ug/L	20	89	70	130		
		bromobenzene		17	ug/L	20	85	70	130		
		1,3,5-trimethylbenzene		17	ug/L	20	87	70	130		
		2-chlorotoluene		17	ug/L	20	85	70	130		
		4-chlorotoluene		18	ug/L	20	88	70	130		
		tert-butylbenzene		18	ug/L	20	92	70	130		
		1,2,4-trimethylbenzene		18	ug/L	20	89	70	130		
		sec-butylbenzene		18	ug/L	20	89	70	130		
		1,3-dichlorobenzene		17	ug/L	20	86	70	130		
		4-isopropyltoluene		18	ug/L	20	91	70	130		
		1,4-dichlorobenzene		17	ug/L	20	83	70	130		
		1,2-dichlorobenzene		17	ug/L	20	85	70	130		
		n-butylbenzene		18	ug/L	20	89	70	130		
		1,2-dibromo-3-chloropropane (DBCP)		16	ug/L	20	82	70	130		
		1,2,4-trichlorobenzene		16	ug/L	20	79	70	130		
		hexachlorobutadiene		17	ug/L	20	86	70	130		
		naphthalene		15	ug/L	20	76	70	130		
		1,2,3-trichlorobenzene		15	ug/L	20	75	70	130		
		dibromofluoromethane SUR		98	%			78	114		
		toluene-D8 SUR		106	%			88	110		
		4-bromofluorobenzene SUR		103	%			86	115		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R		Limits		RPD	RPD Limit
SW5030B8260B	LCSD1301286	dichlorodifluoromethane			15	ug/L	20	77		70	130	11	20
		chloromethane			19	ug/L	20	93		70	130	14	20
		vinyl chloride			19	ug/L	20	94		70	130	12	20
		bromomethane			29	ug/L	20	143	*	70	130	19	20
		chloroethane			20	ug/L	20	102		70	130	16	20
		trichlorofluoromethane			20	ug/L	20	101		70	130	15	20
		diethyl ether			19	ug/L	20	93		70	130	13	20
		acetone		<	50	ug/L	20	121				10	20
		1,1-dichloroethene			16	ug/L	20	79		70	130	13	20
		methylene chloride			19	ug/L	20	93		70	130	9	20
		carbon disulfide			17	ug/L	20	85		70	130	14	20
		methyl t-butyl ether (MTBE)			22	ug/L	20	112		70	130	10	20
		trans-1,2-dichloroethene			18	ug/L	20	92		70	130	10	20
		isopropyl ether (DIPE)			21	ug/L	20	107		70	130	9	20
		ethyl t-butyl ether (ETBE)			23	ug/L	20	114		70	130	11	20
		1,1-dichloroethane			19	ug/L	20	97		70	130	11	20
		t-butanol (TBA)			130	ug/L	100	128		70	130	17	20
		2-butanone (MEK)			21	ug/L	20	106		70	130	16	20
		2,2-dichloropropane			23	ug/L	20	113		70	130	12	20
		cis-1,2-dichloroethene			22	ug/L	20	108		70	130	12	20
		chloroform			22	ug/L	20	109		70	130	9	20
		bromochloromethane			19	ug/L	20	95		70	130	7	20
		tetrahydrofuran (THF)			20	ug/L	20	98		70	130	13	20
		1,1,1-trichloroethane			21	ug/L	20	103		70	130	11	20
		1,1-dichloropropene			23	ug/L	20	114		70	130	12	20
		t-amyl-methyl ether (TAME)			22	ug/L	20	110		70	130	10	20
		carbon tetrachloride			19	ug/L	20	96		70	130	12	20
		1,2-dichloroethane			25	ug/L	20	123		70	130	11	20
		benzene			19	ug/L	20	97		70	130	11	20
		trichloroethene			20	ug/L	20	99		70	130	9	20
		1,2-dichloropropane			22	ug/L	20	110		70	130	13	20
		bromodichloromethane			21	ug/L	20	107		70	130	10	20
		1,4-dioxane		<	50	ug/L	40	113		70	130	10	20
		dibromomethane			20	ug/L	20	102		70	130	5	20
		4-methyl-2-pentanone (MIBK)			20	ug/L	20	99		70	130	10	20
		cis-1,3-dichloropropene			21	ug/L	20	106		70	130	10	20
		toluene			20	ug/L	20	99		70	130	8	20
		trans-1,3-dichloropropene			21	ug/L	20	106		70	130	12	20
		2-hexanone			19	ug/L	20	96		70	130	12	20
		1,1,2-trichloroethane			21	ug/L	20	104		70	130	10	20
		1,3-dichloropropane			21	ug/L	20	103		70	130	10	20
		tetrachloroethene			19	ug/L	20	94		70	130	12	20
		dibromochloromethane			18	ug/L	20	90		70	130	9	20
		1,2-dibromoethane (EDB)			19	ug/L	20	96		70	130	12	20
		chlorobenzene			19	ug/L	20	96		70	130	10	20
		1,1,1,2-tetrachloroethane			20	ug/L	20	101		70	130	8	20
		ethylbenzene			19	ug/L	20	94		70	130	11	20
		m&p-xylenes			37	ug/L	40	93		70	130	10	20
		o-xylene			19	ug/L	20	96		70	130	9	20
		styrene			19	ug/L	20	95		70	130	8	20
		bromoform			18	ug/L	20	90		70	130	10	20

Method	QC ID	Parameter	Associated Sample	Result	Units	Amt Added	%R	Limits		RPD		RPD Limit
SW5030B8260B	LCSD1301286	isopropylbenzene		21	ug/L	20	107	70	130	10		20
		1,1,2,2-tetrachloroethane		19	ug/L	20	97	70	130	16		20
		1,2,3-trichloropropane		20	ug/L	20	101	70	130	19		20
		n-propylbenzene		21	ug/L	20	104	70	130	15		20
		bromobenzene		20	ug/L	20	98	70	130	14		20
		1,3,5-trimethylbenzene		20	ug/L	20	101	70	130	15		20
		2-chlorotoluene		20	ug/L	20	98	70	130	14		20
		4-chlorotoluene		21	ug/L	20	104	70	130	16		20
		tert-butylbenzene		23	ug/L	20	113	70	130	20		20
		1,2,4-trimethylbenzene		20	ug/L	20	102	70	130	14		20
		sec-butylbenzene		21	ug/L	20	106	70	130	18		20
		1,3-dichlorobenzene		20	ug/L	20	99	70	130	15		20
		4-isopropyltoluene		21	ug/L	20	105	70	130	15		20
		1,4-dichlorobenzene		19	ug/L	20	95	70	130	14		20
		1,2-dichlorobenzene		20	ug/L	20	98	70	130	14		20
		n-butylbenzene		21	ug/L	20	105	70	130	17		20
		1,2-dibromo-3-chloropropane (DBCP)		21	ug/L	20	107	70	130	27	*	20
		1,2,4-trichlorobenzene		18	ug/L	20	92	70	130	15		20
		hexachlorobutadiene		21	ug/L	20	103	70	130	18		20
		naphthalene		19	ug/L	20	93	70	130	20		20
		1,2,3-trichlorobenzene		19	ug/L	20	94	70	130	23	*	20
		dibromofluoromethane SUR		98	%			78	114			
		toluene-D8 SUR		106	%			88	110			
		4-bromofluorobenzene SUR		103	%			86	115			

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA EPH	BLK6080	naphthalene		<	0.5	ug/L						
		2-methylnaphthalene		<	0.5	ug/L						
		phenanthrene		<	0.5	ug/L						
		acenaphthene		<	0.5	ug/L						
		acenaphthylene		<	0.5	ug/L						
		fluorene		<	0.5	ug/L						
		anthracene		<	0.5	ug/L						
		fluoranthene		<	0.5	ug/L						
		pyrene		<	0.5	ug/L						
		benzo(a)anthracene		<	0.5	ug/L						
		chrysene		<	0.5	ug/L						
		benzo(b)fluoranthene		<	0.5	ug/L						
		benzo(k)fluoranthene		<	0.5	ug/L						
		benzo(a)pyrene		<	0.2	ug/L						
		indeno(1,2,3-cd)pyrene		<	0.5	ug/L						
		dibenzo(a,h)anthracene		<	0.5	ug/L						
		benzo(g,h,i)perylene		<	0.5	ug/L						
		Unadjusted C11-C22 Aromatics		<	100	ug/L						
		C9-C18 Aliphatics		<	100	ug/L						
		C19-C36 Aliphatics		<	100	ug/L						
		C11-C22 Aromatics		<	100	ug/L						
		1-chloro-octadecane SUR			62	%			40	140		
		o-terphenyl SUR			64	%			40	140		
		2-fluorobiphenyl SUR			100	%			40	140		
		2-bromonaphthalene SUR			92	%			40	140		
MA EPH	LCS6080	naphthalene			37	ug/L	60	62	40	140		
		2-methylnaphthalene			37	ug/L	60	62	40	140		
		phenanthrene			47	ug/L	60	78	40	140		
		acenaphthene			37	ug/L	60	62	40	140		
		acenaphthylene			39	ug/L	60	65	40	140		
		fluorene			41	ug/L	60	68	40	140		
		anthracene			45	ug/L	60	74	40	140		
		fluoranthene			48	ug/L	60	79	40	140		
		pyrene			50	ug/L	60	84	40	140		
		benzo(a)anthracene			48	ug/L	60	80	40	140		
		chrysene			51	ug/L	60	85	40	140		
		benzo(b)fluoranthene			44	ug/L	60	73	40	140		
		benzo(k)fluoranthene			50	ug/L	60	83	40	140		
		benzo(a)pyrene			48	ug/L	60	80	40	140		
		indeno(1,2,3-cd)pyrene			51	ug/L	60	85	40	140		
		dibenzo(a,h)anthracene			51	ug/L	60	85	40	140		
		benzo(g,h,i)perylene			52	ug/L	60	86	40	140		
		Unadjusted C11-C22 Aromatics			660	ug/L	1020	65	40	140		
		C9-C18 Aliphatics			180	ug/L	360	50	40	140		
		C19-C36 Aliphatics			310	ug/L	480	65	40	140		
		C11-C22 Aromatics		<	100	ug/L						
		1-chloro-octadecane SUR			55	%			40	140		
		o-terphenyl SUR			68	%			40	140		
		2-fluorobiphenyl SUR			105	%			40	140		
		2-bromonaphthalene SUR			96	%			40	140		

Method	QC ID	Parameter	Associated Sample		Result	Units	Amt Added	%R	Limits		RPD	RPD Limit
MA EPH	LCSD6080	naphthalene			35	ug/L	60	59	40	140	6	25
		2-methylnaphthalene			36	ug/L	60	60	40	140	4	25
		phenanthrene			44	ug/L	60	74	40	140	6	25
		acenaphthene			36	ug/L	60	59	40	140	4	25
		acenaphthylene			38	ug/L	60	63	40	140	3	25
		fluorene			40	ug/L	60	66	40	140	3	25
		anthracene			43	ug/L	60	71	40	140	5	25
		fluoranthene			46	ug/L	60	77	40	140	4	25
		pyrene			49	ug/L	60	82	40	140	1	25
		benzo(a)anthracene			47	ug/L	60	78	40	140	3	25
		chrysene			49	ug/L	60	82	40	140	3	25
		benzo(b)fluoranthene			44	ug/L	60	73	40	140	1	25
		benzo(k)fluoranthene			46	ug/L	60	77	40	140	8	25
		benzo(a)pyrene			46	ug/L	60	77	40	140	4	25
		indeno(1,2,3-cd)pyrene			50	ug/L	60	84	40	140	2	25
		dibenzo(a,h)anthracene			50	ug/L	60	83	40	140	1	25
		benzo(g,h,i)perylene			51	ug/L	60	84	40	140	2	25
		Unadjusted C11-C22 Aromatics			620	ug/L	1020	61	40	140	6	25
		C9-C18 Aliphatics			170	ug/L	360	47	40	140	5	25
		C19-C36 Aliphatics			360	ug/L	480	75	40	140	13	25
		C11-C22 Aromatics		<	100	ug/L						
		1-chloro-octadecane SUR			66	%			40	140		
		o-terphenyl SUR			63	%			40	140		
		2-fluorobiphenyl SUR			96	%			40	140		
		2-bromonaphthalene SUR			71	%			40	140		

Lab ID:	NBT LCS 6080W
Sample Designation:	Laboratory Control Sample 6080W
Date Sampled:	N/A
Date Received:	N/A
Date Extracted:	5/22/13
Matrix:	Water
Analyst:	JLZ

NAPHTHALENE BREAKTHROUGH CALCULATION

Method for Ranges: MADEP EPH 2004-1.1

Method for Target Analytes: EPA 8270C

	LCS Aliphatic Breakthrough (%)	Acceptance Criteria	Date of Analysis
naphthalene	0.5%	<5.0%	5/23/13
2-methylnaphthalene	0.3%	<5.0%	5/23/13

Lab ID:	NBT LCSD 6080W
Sample Designation:	Laboratory Control Sample Duplicate 6080W
Date Sampled:	N/A
Date Received:	N/A
Date Extracted:	5/22/13
Matrix:	Water
Analyst:	JLZ

NAPHTHALENE BREAKTHROUGH CALCULATION

Method for Ranges: MADEP EPH 2004-1.1
Method for Target Analytes: EPA 8270C

	LCSD Aliphatic Breakthrough (%)	Acceptance Criteria	Date of Analysis
naphthalene	3.7%	<5.0%	5/23/13
2-methylnaphthalene	2.5%	<5.0%	5/23/13

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

26863

Company Name: Woodard + Curran Inc.
Company Address: 980 Washington St Suite 325
Report To: Dan Clinton
Phone #: 781-251-0200
Invoice To: Email: dclinton@woodardcurran.com

Project Name: Ellington/Old Road
Project #: 223376.01
Project Location: NH MA ME VT Other
Protocol: RCRA SDWA NPDES MCP NHDES OTHER
Reporting Limits: QAPP GW-1 S-1 EPA DW Other
Quote # ☐ NH Reimbursement Pricing
PO #

ANALYSIS REQUEST

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	VOC 8260 ☐ VOC 8260 NHDES ☐ VOC 8260 MADEP	VOC 624 ☐ VOC BTEX ☐ MBE, only ☐ VOC 8021VT	EPH MADEP ☐ MEGRO ☐ GRO 8015 ☐ 1,4-Dioxane	VOC 524.2 ☐ VOC 524.2 NH List ☐ Gases-List:	TPH ☐ DRO 8015 ☐ MEDRO ☐ EPH MADEP ☐ TPH Fingerprint	8270PAH ☐ 8270ABN ☐ 625 ☐ EDB 504.1	8082 PCB ☐ 8081 Pesticides ☐ 608 Pest/PCB	O&G 1664 ☐ Mineral O&G SM5520F	pH ☐ BOD ☐ Conductivity ☐ Turbidity	TSS ☐ TDS ☐ TS ☐ TVS ☐ Alkalinity	RCRA Metals ☐ Priority Pollutant Metals ☐ TAL Metals ☐ Hardness	Total Metals-list:	Dissolved Metals-list:	Ammonia ☐ COD ☐ TKN ☐ TN ☐ TON ☐ TOC	T-Phosphorus ☐ Phenols ☐ Bacteria P/A ☐ Bacteria MPN	Cyanide ☐ Sulfide ☐ Nitrate + Nitrite ☐ Ortho P	Nitrate ☐ Nitrite ☐ Chloride ☐ Sulfate ☐ Bromide ☐ Fluoride	Corrosivity ☐ Reactive CN ☐ Reactive S- ☐ Ignitibility/FP	TCLP Metals ☐ TCLP VOC ☐ TCLP SVOC ☐ TCLP Pesticide	Subcontract: ☐ Grain Size ☐ Herbicides ☐ Formaldehyde				Grab (G) or Composite (C)
26863 -01	WC-6	7	X			X					5/20/13	1312	RS	X	X	X		X	X																					G
-02	Duplicate	7	X			X					5/20/13	1312	RS	X	X	X		X	X																						G
-03	Trip Blank	1	X			X					LAB →			X																										

TAT REQUESTED
Priority (24 hr)* ☐
Expedited (48 hr)* ☐
Standard (10 Business Days) ☑
*Date Needed _____

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS
Analyze per MCP/CAM. RCGW-2 standards must be met per QAPP. No VOC duplicate

REPORTING INSTRUCTIONS ☑ PDF (e-mail address) dclinton@woodardcurran.com
☐ HARD COPY REQUIRED ☐ FAX (FAX#) _____

RECEIVED ON ICE ☒ YES ☐ NO
TEMPERATURE 4 °C

CUSTODY RECORD
QSD-01 Revision 03/21/13

		Date	Time		Date	Time
Relinquished by Sampler:	Ryan Smith	5/20/13	1400	Received by:		5/20/13	1400
Relinquished by:		5/21/13	1130	Received by:		5/21/13	1130
Relinquished by:		Date	Time	Received by Laboratory		Date	Time

GEOPHYSICAL INVESTIGATION
FOR USTS
14 ELLINGTON STREET
DORCHESTER, MA 02121

Prepared for:

Woodard & Curran
980 Washington Street
Dedham, MA 02026

Prepared by:

Hager GeoScience, Inc.
596 Main Street
Woburn, MA 01801

File 2013023
May 2013

Hager GeoScience, Inc.

1.0 INTRODUCTION

This report details the results of a geophysical survey conducted by Hager GeoScience, Inc. (HGI) for Woodard & Curran (W&C) at 14 Ellington Street in Dorchester, Massachusetts. The objective of the survey was to locate historical USTs possibly present beneath a paved area of the site.

2.0 DATA ACQUISITION

HGI personnel performed the survey during the day on Monday, April 15th, 2013, using ground penetrating radar (GPR) and time domain electromagnetic (EM) methods. Precision utility locators (PUL) were also used at the site to locate potential utilities.

The extent of the survey area was defined in the field by Daniel Clinton of W&C. HGI personnel used paint and fiberglass tapes to lay out a grid to encompass the survey area. Both GPR and EM data were collected in all accessible portions of the survey area. The locations of surface features as well as the extent of the survey coverage for each method are shown on Plate 1, an AutoCAD map created from the HGI field notes and GPS survey.

Discussions specific to the GPR and EM data collection are provided below, while more general discussions of the techniques and their limitations can be found in Appendix A.

2.1 GPR Survey

GPR data were collected using a GSSI SIR-3000 digital ground penetrating radar system with a 400-MHz antenna and a survey wheel for horizontal distance control. The data were collected along orthogonal traverses spaced 2.5 feet apart and displayed in real time on a color monitor for initial quality control while being simultaneously recorded on the system's flash memory.

The effective GPR signal penetration way variable and ranged from approximately 0.5 to 6 feet below grade; identification of targets below these depths was difficult.

Data from the GPR survey were downloaded to a PC at the HGI office for processing and analysis using GSSI's RADAN® 6 software.

2.2 EM Survey

HGI collected EM data using a Geonics EM61-MK2 (EM61) high-powered time domain metal detector, which uses a single transmitting coil to induce secondary time-varying magnetic fields in metallic objects. Two receiving coils detect this secondary magnetic field, which is measured in millivolts (mV). EM data were collected along east-west traverses spaced 5 feet apart.

All EM data were recorded and stored in the internal memory of the Allegro field PC and transferred to an HGI office computer for preliminary quality control and subsequent data

processing.

Tables 1 and 2 in Appendix B show the pertinent parameters for collection of the GPR and EM data, respectively.

2.3 Precision Utility Locating

A Ditch Witch Subsite 950 R/T and 3M Dynatel 2250 Precision Utility Locator (PUL) were used in conjunction with the GPR to provide real-time utility locating. The Subsite was used in passive 50/60 Hz mode to locate live electric lines and in active mode to induce a current with a unique frequency onto surface exposures of a utility (e.g., hydrant, water valve, etc.). The Dynatel was used to sweep the survey area for underground utilities that had no surface features. The PUL-identified utilities were marked in the field with spray paint.

2.4 GPS Survey

HGI used its Sokkia 2700 ISX RTK GPS to locate the survey grid, as well as surface features such as manholes and water valves. The Sokkia system provided a relative accuracy of less than 0.164 feet horizontally and 0.328 feet vertically for points in the Massachusetts State Plane coordinate system.

3.0 DATA REDUCTION AND ANALYSIS

3.1 GPR Survey

The downloaded GPR data were archived, processed, and analyzed using GSSI's RADAN® 6. Prior to analysis, the raw GPR data required processing to reduce the detrimental effects of site-specific noise associated with interfering background frequency signals and reflections from surface and subsurface structures. The processed records were then used to construct 3D models of the surveyed areas. 3D models are useful for viewing the spatial qualities of the data and identifying subtle spatial features that may not be apparent in individual 2D records. The 3D models are sliced horizontally and vertically to observe patterns of GPR anomalies present in the radar data.

Each 2D record was also individually evaluated for possible anomalies. Preliminary interpretations made from analysis of the individual 2D records were plotted and evaluated in a spatial context using the 3D models. Conversely, spatial anomalies observed in the 3D models were re-examined on the individual records to ensure that all possible anomalies were evaluated.

The interpreted individual GPR targets were then exported to AutoCAD, where linear trends and areal anomalies were plotted.

Select areal anomalies were labeled and reviewed as candidates for potential USTs.

3.2 EM Survey

The downloaded EM data were reduced using TRACKMAKER61MK2® and DAT61MK2® software, which were also used to adjust for survey geometry.

The readings taken by the EM61 are relative to a "normalized" value calibrated within the grid, and the values are in millivolts (mV). High-conductivity anomalies (blue to magenta) are typically associated with metal or iron-rich soils.

Filled color contour plots for the EM61 data were prepared using Golden Software's Surfer for Windows V9® with a kriging interpolation method. The EM61 unit is capable of observing the electromagnetic response at various times or "time gates," which can provide useful information on the nature of a target. The response from time gate 1 (216 µs) was found to be the most useful and was exported from Surfer into AutoCAD as a .dxf file and saved as an AutoCAD drawing.

4.0 RESULTS

The results of the survey are shown on Plates 1 through 4, AutoCAD 2014 plots prepared from the HGI field notes and measurements.

Plate 1:	Site Overview Map and PUL Information
Plate 2:	EM Contour Interpretation Map
Plate 3:	GPR Interpretation Map
Plate 4:	Synthesis Map

4.1 EM Survey – Plate 2

Analysis of the first time gate (Plate 2) identified a single linear (brown double-dot line) and multiple areas of strong response (brown box). Of the anomalies found on Plate 2, those located adjacent to a possible oil/water separator and the reinforced concrete pad have the high mV response typical of potential USTs.

Those anomalies likely associated with surface metal have been identified with a dashed thin line weight. These anomalies should still be regarded as potential obstructions, as the response from the surface metal (e.g., dumpsters) may be masking the response from a legitimate deeper target.

Although the exact depth of these EM anomalies cannot be accurately determined, it is likely that they originate less than five feet below grade.

4.2 GPR Survey - Plate 3

The GPR survey identified multiple linear features as well as other anomalies. GPR-identified utilities associated with exposed utility features were color-coded in accordance with industry-accepted standards.

The “Potential Utility/Linear Anomaly” category represents utilities that could not be categorized as to type. Short segments in this category may represent sections of utilities or buried debris. Dashed lines/shapes indicate a lower confidence level in the interpretation, tildes indicate the termination of a potential utility/linear feature in the GPR records, and arrows indicate the possible continuation of a linear feature beyond the survey area.

The "GPR-Identified - Anomaly" and "GPR-Identified - Anomalous Zone" categories (cyan) represent anomalies or anomalous areas with geometry and/or signal strength that stands out from the background GPR signal. The "GPR-Identified - Anomaly" category represents a single anomaly, while the "GPR-Identified - Anomalous Zone" category represents an area containing multiple individual anomalies or an area that stands out from the background GPR signal. These anomalies should be considered potential obstructions and can have causes ranging from changes in the soil/fill to buried debris. GPR anomaly and anomalous zone shapes may vary from those depicted in the legend. The shape of each anomaly reflects the general outline that best fits that anomaly or anomalous area and may not actually reflect the shape of the potential subsurface obstruction.

4.3 Synthesis – Plate 4

Plate 4 is a composite PUL, GPR and EM plot integrating all the identified utilities and anomalies onto a single map.

5.0 CONCLUSIONS

Of the identified GPR anomalies, two (labeled “A” and “B”) may be caused by potential USTs. They could not be fully characterized because their locations at the edge of the accessible survey area allowed them to be identified along only a single traverse. However, as these GPR anomalies correlate with an area of increased EM response, they warrant further investigation.

HGI also recommends excavating the reinforced concrete pad, as limited GPR data quality in this area may have prevented identification of a UST beneath it.

The remaining GPR and EM anomalies may be related to potential obstructions, but are unlikely to be produced by USTs.

It should be noted that EM and GPR are indirect methods and thus cannot unambiguously determine the physical properties of anomalies, or that all reflectors interpreted as utilities or buried targets are related (see Limitations Section). Confirmation of results via excavation and/or test pitting is strongly recommended.

HGI recommends a minimum buffer of 2 feet, where possible, on either side of utility centerlines and around anomaly extents, as indicated on the map, due to inaccuracies from grid creation, data collection, and survey locating. Drilling and/or excavating should proceed with caution.

APPENDIX A: THE GEOPHYSICAL METHODS

A.1 Ground Penetrating Radar

A.1.1 Description of the Method. The principle of ground penetrating radar (GPR) is the same as that used by police radar, except that GPR transmits electromagnetic energy into the ground. The energy is reflected back to the surface from interfaces between materials with contrasting electrical (dielectric and conductivity) and physical properties. The greater the contrast between two materials in the subsurface, the stronger the reflection observed on the GPR record. The depth of GPR signal penetration depends on the properties of the subsurface materials and the frequency of the antenna used to collect radar data. The lower the antenna frequency, the greater the signal penetration, but the lower the signal resolution.

GPR data are collected using a Geophysical Survey Systems (GSSI) SIR 2000/3000 ground penetrating radar system. GPR data are digitally recorded on the internal hard drive, or flash-memory of the system. System controls allow the GPR operator to filter out noise, attributed to both coupling noise, caused by conductive soil conditions, spurious noise caused by local EMF fields and internal system noise. For shallow surveys, we use antennas with center frequencies ranging from 2000- to 400-megahertz (MHz). For deeper penetration, we use lower frequency antennas ranging from 300-MHz to 15-MHz, depending on the anticipated depth of the target(s) and the degree of signal penetration. All of these antenna configurations can collect data in continuous mode or as discrete point measurements using signal-stacking techniques. Since there is a tradeoff between signal penetration and resolution, test lines are run using different antennas at several frequencies and then the highest frequency antenna that produces the highest quality data is used. In some cases, data are collected with several antenna frequencies.

A.1.2 Data Analysis and Interpretation. The horizontal scale of the GPR record shows distance along the survey traverse. In the continuous data collection mode, the horizontal scale on each GPR record is determined by the antenna speed along the surface. When a survey wheel is used, the GPR system records data with a fixed number of traces per unit distance. The GPR record is automatically marked at specified distance intervals along the survey line. The vertical scale of the radar record is determined by the velocity of the transmitted signal and the recording time window or range. The recording time interval, or range, represents the maximum two-way travel time in which data are recorded. The conversion of two-way travel time to depth depends on the propagation velocity of the GPR signal, which is site specific. When little or no information is available about the makeup of subsurface materials, we estimate propagation velocities from handbook values and experience at similar sites or by CDP velocity surveys with a bi-static antenna.

After completion of data collection, the GPR data are transferred to a PC for review and processing using RADAN for Windows XP™ software. When appropriate, we prepare 3D models of GPR data, which can be sliced in the X, Y, and Z directions.

The size, shape, and amplitude of GPR reflections are used to interpret GPR data. Objects such as metallic UST's and utilities produce reflections with high amplitude and distinctive hyperbolic

shapes. Clay, concrete pipes, boulders and other in-situ features may produce radar signatures of similar shape but lower amplitude. The boundaries between saturated and unsaturated materials such as sand and clay, bedrock and overburden generally also produce strong reflections.

A.1.3 Limitations of the Method. GPR signal penetration is site-specific. It is determined by the dielectric properties of local soil and fill materials. GPR signals propagate well in resistive materials such as sand and gravel; however, soils containing clay, ash- or cinder-laden fill or fill saturated with brackish or otherwise electrically conductive groundwater cause GPR signal attenuation and loss of target resolution. Concrete containing rebar or wire mesh also inhibits signal penetration.

The interpreted depths of objects detected using GPR are based on on-site calibration, handbook values, and/or estimated GPR signal propagation velocities from similar sites. GPR velocities and depth estimates may vary if the medium under investigation or soil water content is not uniform throughout the site.

Utilities are interpreted on the basis of reflections of similar size and depth that exhibit a linear trend; however GPR cannot unambiguously determine that all such reflectors are related. Fiberglass UST's, or utilities composed of plastic or clay may be difficult to detect if situated in soils with similar electromagnetic properties, or if situated in fill with other reflecting targets which generate "clutter" or signal scattering and thus obscure other deeper reflectors. Objects buried beneath reinforced concrete pads or slabs may also be difficult, but possible, to detect.

Changes in the speed at which the GPR antenna is moved along the surface causes slight variations in the horizontal scale of the recorded traverse. Distance interpolation may be performed to minimize the error in interpreted object positions. The variation in the horizontal scale of the GPR record may be controlled, to a certain extent, with a distance encoder or Survey Wheel. The GPR antenna produces a cone-shaped signal pattern that emanates approximately 45 degrees from horizontal front and back of the antenna. Therefore, buried objects may be detected before the antenna is located directly over them. GPR anomalies may appear larger than actual target dimensions.

GPR interpretation is more subjective than other geophysical methods. The interpretive method is based on the identification of reflection patterns that do not uniquely identify a subsurface target. Borings, test pits, site utility plans and other ground-truth are recommended to verify the interpreted GPR results.

A.2 EM Time Domain Metal Detection

A.2.1 Description of the Method. The time domain electromagnetic system includes a single transmitter coil and two receiver coils. A primary magnetic field, generated by an alternating current supplied to the transmitter coil, induces eddy currents in nearby metallic objects. These induced eddy currents decay at a rate dependent on the characteristics of the anomaly, which in turn produces a secondary magnetic field with the same rate of decay. The decay over time of the secondary magnetic field generates a signal within each of the two receiving coils, thereby

confirming the presence of metal.

We collect EM time domain data using a Geonics EM61-MK2 high power system. The EM61-MK2 is a "coil over coil" system in which each coil measures 1x0.5 meters. Data can be collected in auto, wheel, or manual modes depending on the nature of the survey.

The Geonics EM61-MK2 Data Logging System consists of an Allegro Field PC computer, EM61MK2 data-logging program, and a cable to connect the Allegro to the Geonics EM61-MK2 instrument. The EM61MK2 program acquires and records survey data from the EM61-MK2 systems under the control of the operator. For in-field quality control and initial anomaly identification, the Allegro Field PC also provides a real-time visual display of the data in mV. Field information such as survey line number, starting station, increments, and comments are also recorded.

A.2.2 Data Analysis and Interpretation. Common applications of the time domain metal detector include the detection of environmental hazards such as drum and underground storage tanks (UST), utilities and infrastructure, construction and industrial waste, and unexploded ordnance (UXO).

Depending on the nature of the target (size, depth, magnetic susceptibility), the signal it produces falls within an expected voltage reading. At sites free of metal objects and other cultural interference, USTs due to their size, shape, and composition tend to produce readings several thousands of mV higher than the non-ferrous background. This significant contrast with the background makes for rapid data analysis and detection of USTs and other large targets. However, if the target is small and/or has a weak signal response, such as that produced by many UXOs, significant time is required to process and analyze the data.

A.2.3 Limitations of the Method. EM voltage readings are influenced by proximity to surface metal objects such as fences, vehicles, reinforced concrete, or buildings that may produce spurious signals unrelated to the presence of buried targets such as USTs.

Subsurface environments containing high concentrations of ferrous materials can decrease the contrast between the background signal and that produced by a UST, making their detection more complex. Also, larger buried pieces of metal, such as scrap metal, or buried metal debris, may produce signals similar to those of USTs and thus produce false positives.

Borings, test pits, site utility plans and other ground-truth are recommended to verify the interpreted EM results.

A.3 Precision Utility Locating (PUL)

A.3.1 Description of the Method. HGI uses a Schonstedt MAC-51B, Ditch Witch SUBSITE 950 R/T precision utility locator, or a 3M Dynatel 2250 pipe and cable locator for utility location. The locator is a two-part system consisting of a signal transmitter and receiver. In active mode using the transmitter, utilities are traced by inducing a variety of signals onto

exposed portions of conduits and piping. Alternatively, in the absence of convenient exposures, signals can be induced onto the lines by placing the transmitter on the ground above the suspected utility location. The receiver can also be used without the transmitter as a magnetic locator or to detect signal emissions (e.g., 60 Hertz for electric lines) at specific frequencies.

A.3.2 Limitations of the Method. Mapping subsurface objects, pipes, and utilities using a locator depends on recognizing physical phenomena at the ground surface. These phenomena can be electromagnetic waves or magnetic fields that are interpreted as being caused by subsurface objects. These waves or fields, however, can be attenuated and/or distorted by factors including soil moisture, steel reinforced concrete, and proximity to other surface and subsurface utilities. It has been found that vertical depth resolution beyond 5 feet below grade is questionable.

A.4 RTK GNSS Global Positioning System (GPS)

A.4.1 Description of the Method. The RTK GPS system consists of a base (reference) receiver and a roving receiver. The base receiver remains stationary during a survey and is mounted on a tribrach and tripod. A rover receiver is used to record points remotely and can be mounted on a staff, vehicle, or other object. The base provides real-time corrections to the rover over a radio connection. The system can produce accuracy on a centimeter scale, but the level of accuracy depends on factors that include the geometry of the transmitting satellites and the receivers' view of the horizons. (e.g., the density of buildings and trees). The data can be collected as quickly as 1 Hz or 1 reading per second.

A.4.2 Data Collection. We perform our GPS surveys using a Sokkia GNSS RTK 2700 ISX. The base station can be set up over a known or unknown point, with the position taken from satellite information. Once the system has achieved a fixed solution for the rover receiver, data points can be collected with survey-grade (centimeter-scale) precision. When GPS points are being collected at a site where the fixed solution is constantly lost and gained, points are checked multiple times for precision. All data points are saved to an Allegro CX field computer.

A.4.3 Data Processing. The GPS data are corrected automatically by the base receiver in the field prior to being recorded. If the base station is located on an unknown point that is later defined, the GPS data can be corrected in the office to fit the real world coordinates.

A.4.4 Limitations of the Method. The quality of the GPS signal is site-specific. The base and rover receiver need to have clear views of the horizon and good satellite geometry to achieve the highest level of accuracy and precision. Although a fixed solution can be achieved in wooded environments or sites with taller buildings, it may take more time to achieve the solutions, the fixed solution may be lost frequently when moving the rover, and in some cases the fixed solution may be wrong. Each of these situations requires longer to locate data points accurately and precisely. When the point is too close to a building, beneath a building overhang, under a tree, or obscured by some other object, a fixed solution may not be possible.

When the base station is set up over an unknown point, the survey data location can be at least

several tens of meters from the real world location. The data points will have survey grade precision relative to the location of the base station and other data points, but will have a real world accuracy discrepancy.

HGI does not guarantee to produce a surveyor-quality map from its GPS data, as this is not its profession. If survey-level accuracy is critical for a project, we recommend hiring professional surveyors for that purpose.

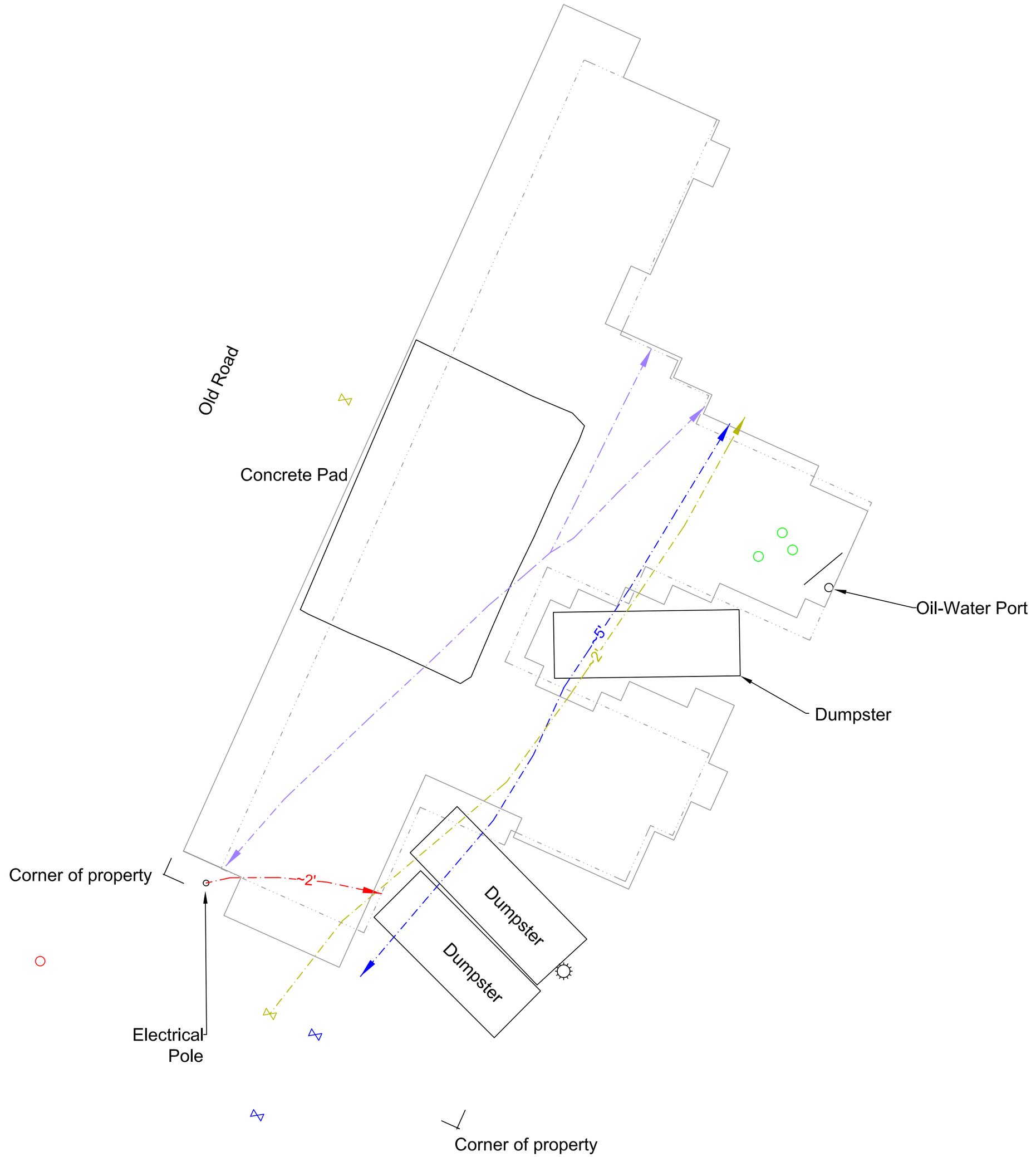
APPENDIX B: TABLES

Table 1
GPR Data Acquisition Parameters

Antenna Frequency (MHz)	Range (ns)	Survey Mode	Scan Rate (per sec)	Scan Rate (per ft)	Sample Rate (samples)	Effective Signal Depth (ft)
400	100	Wheel	120	28	512	0.5-6

Table 2
EM Data Acquisition Parameters

EM61 Mode	Readings/s	Wheel Inc.	GPS Input	NMEA Data
Wheel	N/A	0.64	No	N/A



LEGEND

- GPR Survey Extent
- EM Survey Extent
- 1.0-1.5' GPR-Identified - Potential Utility/Linear Anomaly
- 1.0-1.5' GPR-Identified - Electric Utility
- 1.0-1.5' GPR-Identified - Sewer/Drain Utility
- 1.0-1.5' GPR-Identified - Gas Utility
- 1.0-1.5' GPR-Identified - Areal Anomaly
- 1.0-1.5' GPR-Identified - Anomalous Zone
- GPR-Identified - Reinforced Concrete
- 1.0-1.5' PUL-Identified - Electric Utility
- 1.0-1.5' PUL-Identified - Gas Utility
- 1.0-1.5' PUL-Identified - Water Utility
- 1.0-1.5' PUL-Identified - Potential Utility/Linear Anomaly
- EM-Identified - Linear Anomaly
- EM-Identified - Areal Anomaly
- GPS-Located - Light Pole
- GPS-Located - Sewer/Drain Manhole
- GPS-Located - Electric Manhole
- GPS-Located - Water Valve
- GPS-Located - Gas Valve

N

Approximate

0 5 10 20

Scale in Feet

Plate 1

MAY 2013 | FILE NO. 2013023

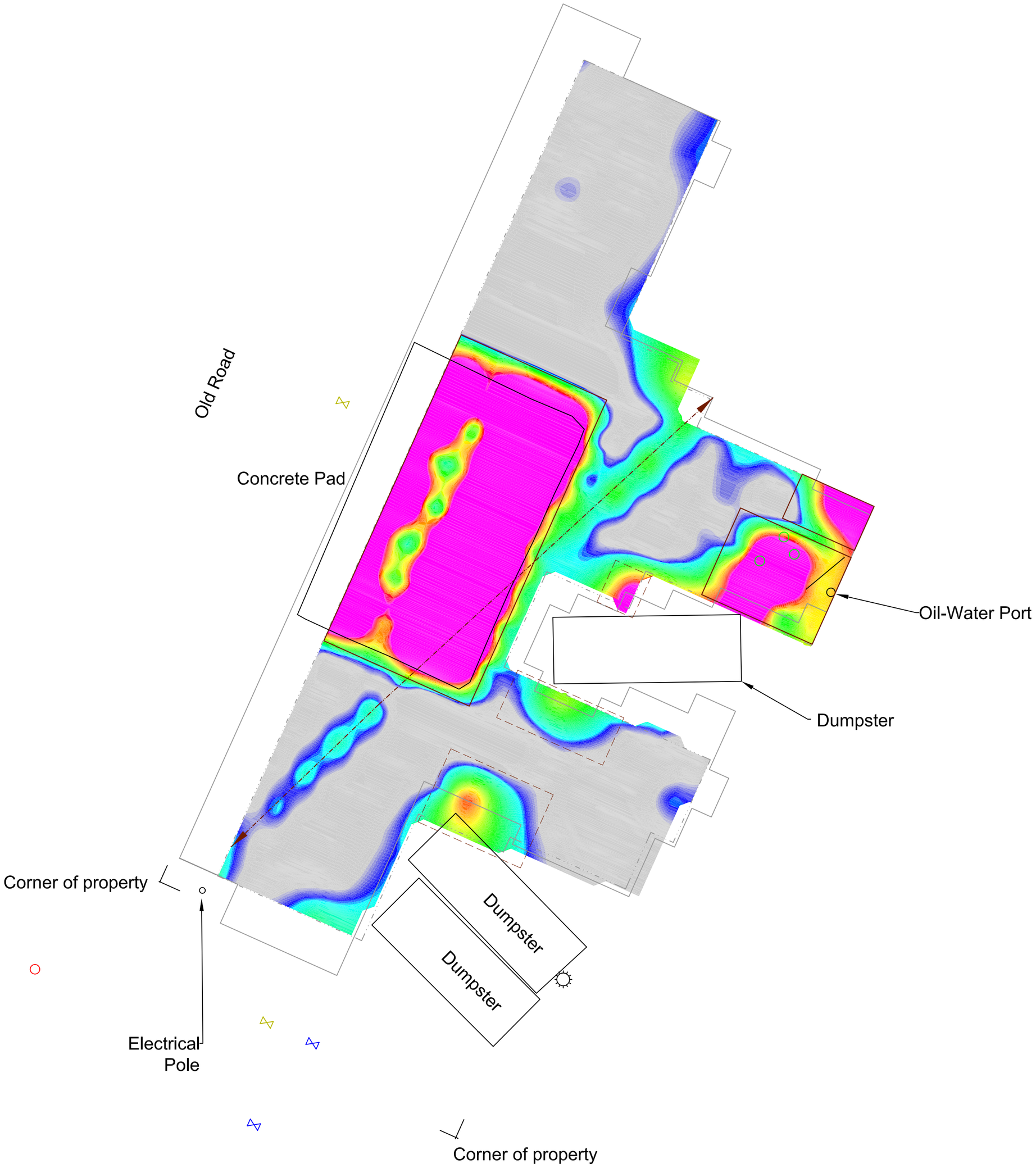
NOTES:

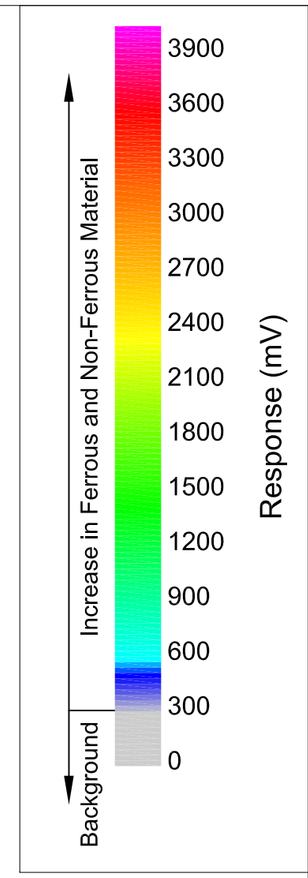
1.) The base map was created from HGI field notes and GPS measurements.
2.) HGI located GPR grids and select surface features (manholes, valves, surface metal, etc.) using a Sokkia 2700 ISX RTK GPS system.
3.) The EM contour plot was created using channel 1 (216 us). Gray values are considered background, while colors ranging from blue to magenta represent increases in ferrous and non-ferrous metal.
4.) EM anomalies shown as thin dashed line weight are anomalies likely associated with surface metal.
5.) EM linear anomalies were determined by the linear trend of continuous and discontinuous elevated EM values. EM is an indirect method and cannot unambiguously determine if the discontinuous highs that make up the linear anomaly are related.
6.) EM and GPR anomaly and anomalous zone shapes may vary from those depicted in the legend. The shape of each anomaly reflects the general outline that best fits that anomaly or anomalous area and may not actually reflect the shape of the potential subsurface obstruction.
7.) The "~" symbol indicates the termination of a potential utility/linear anomaly, while an arrow ending a linear feature indicates the possible continuation of that feature beyond the surveyed limits.
8.) Values listed with GPR-identified features are depths in feet based on GPR two way travel time velocity conversions and are approximate.
9.) The "GPR-Identified - Anomaly" and "GPR-Identified - Anomalous Zone" categories represent anomalies or anomalous areas with geometry and/or signal strength that stands out from the background GPR signal. The "GPR-Identified - Anomaly" category represents a single anomaly, while the "GPR-Identified - Anomalous Zone" category represents an area containing multiple individual anomalies or an area that stands out from the background GPR signal. These anomalies can have causes ranging from changes in the soil/fill to buried debris.
10.) HGI recommends a minimum buffer of 2 feet, where possible, on either side of utility centerlines and around anomaly extents shown on the map due to utility dimensions and inaccuracies from grid creation, data collection, and survey locating. Drilling and/or excavating should proceed with caution.
11.) Dashed EM and GPR linear and areal anomalies indicate lower confidence in the interpretation of a feature.
12.) Refer to the 2013023 report text for further discussions of the plate.

Geophysical Survey
Site Overview Map &
PUL Information
14 Ellington Street/8 Old Road
Dorchester, MA

Hager GeoScience, Inc.
596 Main Street, Woburn, MA 01801
(781) 935-8111 hgi@hagergeoscience.com

NOT ALL SUBSURFACE FEATURES
MAY BE DEPICTED ON THIS MAP





LEGEND

- GPR Survey Extent
- EM Survey Extent
- 1.0-1.5' GPR-Identified - Potential Utility/Linear Anomaly
- 1.0-1.5' GPR-Identified - Electric Utility
- 1.0-1.5' GPR-Identified - Sewer/Drain Utility
- 1.0-1.5' GPR-Identified - Gas Utility
- 1.0-1.5' GPR-Identified - Areal Anomaly
- 1.0-1.5' GPR-Identified - Anomalous Zone
- GPR-Identified - Reinforced Concrete
- 1.0-1.5' PUL-Identified - Electric Utility
- 1.0-1.5' PUL-Identified - Gas Utility
- 1.0-1.5' PUL-Identified - Water Utility
- 1.0-1.5' PUL-Identified - Potential Utility/Linear Anomaly
- EM-Identified - Linear Anomaly
- EM-Identified - Areal Anomaly
- GPS-Located - Light Pole
- GPS-Located - Sewer/Drain Manhole
- GPS-Located - Electric Manhole
- GPS-Located - Water Valve
- GPS-Located - Gas Valve

N

Approximate

0 5 10 20

Scale in Feet

Plate 2

MAY 2013 | FILE NO. 2013023

NOTES:

1.) The base map was created from HGI field notes and GPS measurements.
2.) HGI located GPR grids and select surface features (manholes, valves, surface metal, etc.) using a Sokkia 2700 ISX RTK GPS system.
3.) The EM contour plot was created using channel 1 (216 us). Gray values are considered background, while colors ranging from blue to magenta represent increases in ferrous and non-ferrous metal.
4.) EM anomalies shown as thin dashed line weight are anomalies likely associated with surface metal.
5.) EM linear anomalies were determined by the linear trend of continuous and discontinuous elevated EM values. EM is an indirect method and cannot unambiguously determine if the discontinuous highs that make up the linear anomaly are related.
6.) EM and GPR anomaly and anomalous zone shapes may vary from those depicted in the legend. The shape of each anomaly reflects the general outline that best fits that anomaly or anomalous area and may not actually reflect the shape of the potential subsurface obstruction.
7.) The "~" symbol indicates the termination of a potential utility/linear anomaly, while an arrow ending a linear feature indicates the possible continuation of that feature beyond the surveyed limits.
8.) Values listed with GPR-identified features are depths in feet based on GPR two way travel time velocity conversions and are approximate.
9.) The "GPR-Identified - Anomaly" and "GPR-Identified - Anomalous Zone" categories represent anomalies or anomalous areas with geometry and/or signal strength that stands out from the background GPR signal. The "GPR-Identified - Anomaly" category represents a single anomaly, while the "GPR-Identified - Anomalous Zone" category represents an area containing multiple individual anomalies or an area that stands out from the background GPR signal. These anomalies can have causes ranging from changes in the soil/fill to buried debris.
10.) HGI recommends a minimum buffer of 2 feet, where possible, on either side of utility centerlines and around anomaly extents shown on the map due to utility dimensions and inaccuracies from grid creation, data collection, and survey locating. Drilling and/or excavating should proceed with caution.
11.) Dashed EM and GPR linear and areal anomalies indicate lower confidence in the interpretation of a feature.
12.) Refer to the 2013023 report text for further discussions of the plate.

Geophysical Survey
EM Contour and Interpretation Map
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Dorchester, MA

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NOT ALL SUBSURFACE FEATURES
MAY BE DEPICTED ON THIS MAP

LEGEND

- GPR Survey Extent
- EM Survey Extent
- 1.0-1.5' GPR-Identified - Potential Utility/Linear Anomaly
- 1.0-1.5' GPR-Identified - Electric Utility
- 1.0-1.5' GPR-Identified - Sewer/Drain Utility
- 1.0-1.5' GPR-Identified - Gas Utility
- 1.0-1.5' GPR-Identified - Areal Anomaly
- 1.0-1.5' GPR-Identified - Anomalous Zone
- GPR-Identified - Reinforced Concrete
- 1.0-1.5' PUL-Identified - Electric Utility
- 1.0-1.5' PUL-Identified - Gas Utility
- 1.0-1.5' PUL-Identified - Water Utility
- 1.0-1.5' PUL-Identified - Potential Utility/Linear Anomaly
- EM-Identified - Linear Anomaly
- EM-Identified - Areal Anomaly
- GPS-Located - Light Pole
- GPS-Located - Sewer/Drain Manhole
- GPS-Located - Electric Manhole
- GPS-Located - Water Valve
- GPS-Located - Gas Valve

N

Approximate

0 5 10 20

Scale in Feet

Plate 3

MAY 2013 | FILE NO. 2013023

NOTES:

1.) The base map was created from HGI field notes and GPS measurements.
2.) HGI located GPR grids and select surface features (manholes, valves, surface metal, etc.) using a Sokkia 2700 ISX RTK GPS system.
3.) The EM contour plot was created using channel 1 (216 us). Gray values are considered background, while colors ranging from blue to magenta represent increases in ferrous and non-ferrous metal.
4.) EM anomalies shown as thin dashed line weight are anomalies likely associated with surface metal.
5.) EM linear anomalies were determined by the linear trend of continuous and discontinuous elevated EM values. EM is an indirect method and cannot unambiguously determine if the discontinuous highs that make up the linear anomaly are related.
6.) EM and GPR anomaly and anomalous zone shapes may vary from those depicted in the legend. The shape of each anomaly reflects the general outline that best fits that anomaly or anomalous area and may not actually reflect the shape of the potential subsurface obstruction.
7.) The "~" symbol indicates the termination of a potential utility/linear anomaly, while an arrow ending a linear feature indicates the possible continuation of that feature beyond the surveyed limits.
8.) Values listed with GPR-identified features are depths in feet based on GPR two way travel time velocity conversions and are approximate.
9.) The "GPR-Identified - Anomaly" and "GPR-Identified - Anomalous Zone" categories represent anomalies or anomalous areas with geometry and/or signal strength that stands out from the background GPR signal. The "GPR-Identified - Anomaly" category represents a single anomaly, while the "GPR-Identified - Anomalous Zone" category represents an area containing multiple individual anomalies or an area that stands out from the background GPR signal. These anomalies can have causes ranging from changes in the soil/fill to buried debris.
10.) HGI recommends a minimum buffer of 2 feet, where possible, on either side of utility centerlines and around anomaly extents shown on the map due to utility dimensions and inaccuracies from grid creation, data collection, and survey locating. Drilling and/or excavating should proceed with caution.
11.) Dashed EM and GPR linear and areal anomalies indicate lower confidence in the interpretation of a feature.
12.) Refer to the 2013023 report text for further discussions of the plate.

Geophysical Survey
GPR Interpretation Map
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Dorchester, MA

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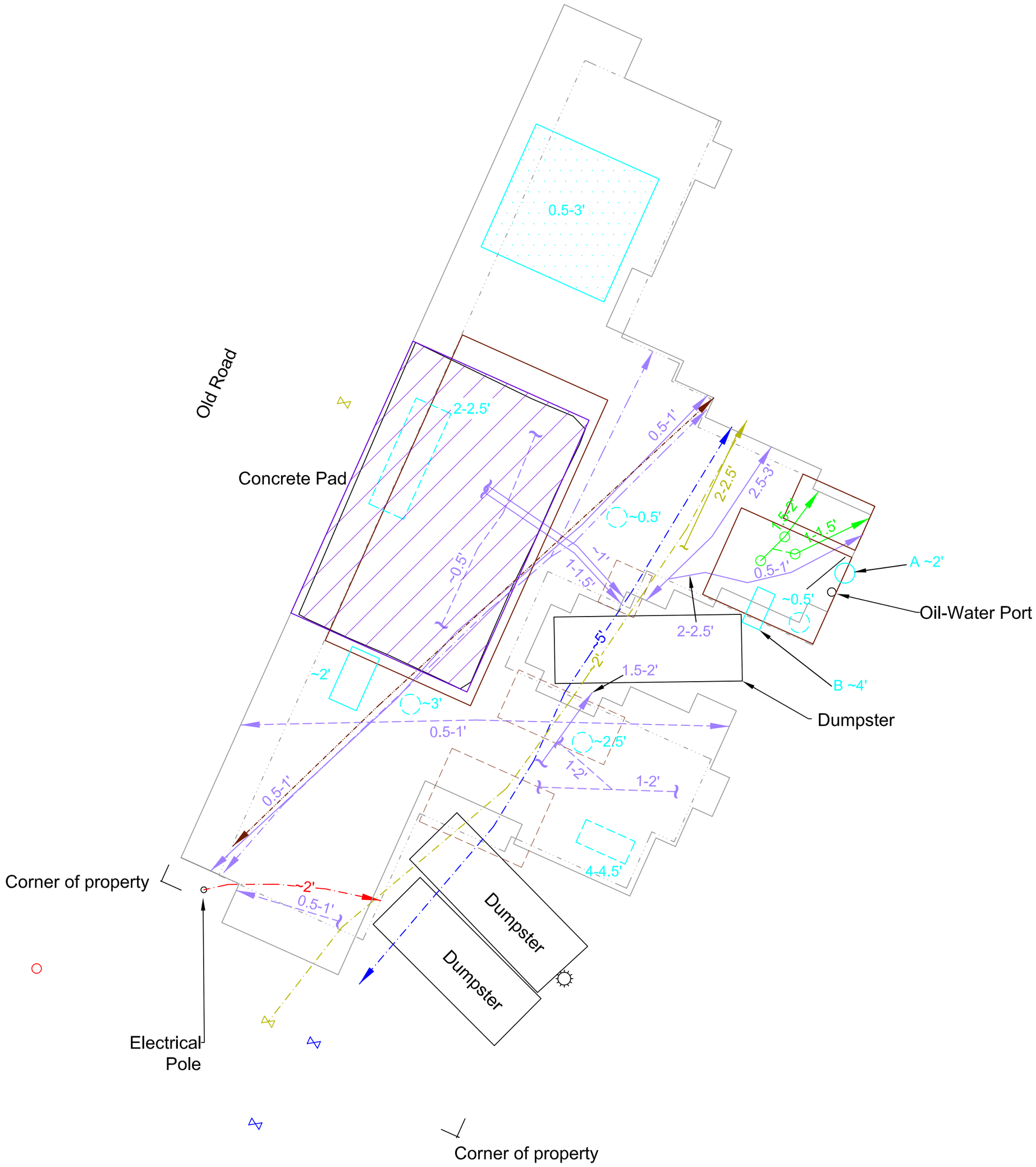
NOT ALL SUBSURFACE FEATURES MAY BE DEPICTED ON THIS MAP



LEGEND

- GPR Survey Extent
- EM Survey Extent
- 1.0-1.5' GPR-Identified - Potential Utility/Linear Anomaly
- 1.0-1.5' GPR-Identified - Electric Utility
- 1.0-1.5' GPR-Identified - Sewer/Drain Utility
- 1.0-1.5' GPR-Identified - Gas Utility
- 1.0-1.5' GPR-Identified - Areal Anomaly
- 1.0-1.5' GPR-Identified - Anomalous Zone
- GPR-Identified - Reinforced Concrete
- 1.0-1.5' PUL-Identified - Electric Utility
- 1.0-1.5' PUL-Identified - Gas Utility
- 1.0-1.5' PUL-Identified - Water Utility
- 1.0-1.5' PUL-Identified - Potential Utility/Linear Anomaly
- EM-Identified - Linear Anomaly
- EM-Identified - Areal Anomaly
- GPS-Located - Light Pole
- GPS-Located - Sewer/Drain Manhole
- GPS-Located - Electric Manhole
- GPS-Located - Water Valve
- GPS-Located - Gas Valve

N

Approximate

0 5 10 20

Scale in Feet

Plate 4

MAY 2013 | FILE NO. 2013023

NOTES:

1.) The base map was created from HGI field notes and GPS measurements.
2.) HGI located GPR grids and select surface features (manholes, valves, surface metal, etc.) using a Sokkia 2700 ISX RTK GPS system.
3.) The EM contour plot was created using channel 1 (216 us). Gray values are considered background, while colors ranging from blue to magenta represent increases in ferrous and non-ferrous metal.
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11.) Dashed EM and GPR linear and areal anomalies indicate lower confidence in the interpretation of a feature.
12.) Refer to the 2013023 report text for further discussions of the plate.

Geophysical Survey
Synthesis Map
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Dorchester, MA

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NOT ALL SUBSURFACE FEATURES MAY BE DEPICTED ON THIS MAP