

SITEC

ENVIRONMENTAL

Civil and Environmental Engineering, Land Use
Planning, Hazardous and Solid Waste Consulting

SITEC ENVIRONMENTAL, Inc.
769 Plain Street, Unit C
Marshfield, MA 02050
Tel. (781) 319-0100 FAX (781) 834-4783

449 Faunce Corner Road
Dartmouth, MA 02747
Tel. (508) 998-2125 FAX (508) 998-7554

September 24, 2018

Mr. David Costanzo
Ondrick Materials & Recycling, LLC
22 Industry Road
Chicopee, MA 01020

RE: Recycling of Contaminated Soils
Residential Lot, 85 McCabe Street, Dartmouth, MA
DEP Release Tracking No. 4-27363

Dear Mr. Costanzo:

SITEC Environmental, Inc. (SITEC) is submitting the attached pre-qualification information for the acceptance of approximately 200 cubic yards of petroleum contaminated soil which has been excavated from the above referenced Property. The removal of this soil from the property is part of an approved Immediate Response Action (IRA) conducted in accordance with the Massachusetts Contingency Plan (MCP).

In July 2018, during the construction for a new residential house, several deteriorated metal drums of various sizes containing a viscous petroleum-based liquid (appearing similar to roofing tar or driveway sealer) and surrounding soil was excavated and stockpiled at the above referenced Property. Subsequently the deteriorated drums and any recoverable viscous petroleum based liquid was removed from the soil stockpile and containerized into drums for separate disposal.

On July 31, 2018, SITEC collected a composite soil sample from the soil stockpile (identified as SP-1). The composite sample consisted of 8 grab samples, except for the VOC portion. The soil sample was placed in appropriate containers and transported to Alpha Analytical Laboratories for the analysis of VOCs 8260, SVOCs 8270, TPH 8100, PCBs, flashpoint, reactivity, pH; and total arsenic, cadmium, chromium, lead (total and TCLP), and mercury. In addition, a second composite sample was collected from the stockpile and was analyzed for TPH only (identified as SP-2) to meet the 1 per 100 cubic yards testing frequency for TPH. The analytical results were reported to be below the standards for soil recycling at Ondrick Materials & Recycling, LLC and is consistent with historical use of the site. Based on the laboratory results and site history the soil is non-hazardous, since no characteristic hazardous waste regulatory levels were triggered and the soil does not contain any listed hazardous wastes.

For SITEC Environmental, Inc.,



Geoffrey Souza, LSP
Environmental Assessment Manager

Attachments



22 Industry Road, Chicopee, MA 01020
Office (413) 592-2566 OndrickMR.com Fax (413) 592-7451

GENERAL INFORMATION
PETROLEUM CONTAMINATED SOILS (PCS)

GENERATOR NAME

Generator Name: Terceira Construction

Contact Name: Jorge Verissimo

Street: 1 Cookie Way

Cell/Phone: 1-774-263-1292

City, State/Zip: Dartmouth, MA 02748

Email: jbraz45@comcast.net

SITE INFORMATION



Residential



Commercial



Industrial



Other

Name: Residential Lot

Contact Name: Jorge Verissimo

Street: 85 McCabe Street

Cell/Phone: 1-774-263-1292

City, State/Zip: Dartmouth, MA 02748

Email: jbraz45@comcast.net



21E Release Site (MA Only)

MassDEP Release Tracking#: 4-27363

ENVIRONMENTAL CONSULTANT'S INFORMATION

Company Name: SITEC Environmental, Inc.

Contact: Geoffrey Souza, LSP

Street: 769 Plain Street, Unit C

Title: Project Manager

City, State/Zip: Marshfield, MA 02050

Email: gsouza@sitecenv.com

Cell/Phone: _____

BILLING INFORMATION

Name: _____

Contact Name: _____

Street: _____

Cell/Phone: _____

City, State, Zip: _____

Email: _____

IF DIFFERENT FROM BILLING INFORMATION:

AP Contact Name: _____

AP Contact Phone: _____

AP Contact Email: _____

CT Site Only: Tax Exempt?



Yes



No



Use certificate on file



Resale certificate attached

PAYMENT METHOD:



Credit Card



Credit Account

Purchase Order#



22 Industry Road, Chicopee, MA 01020
Office (413) 592-2566 OndrickMR.com Fax (413) 592-7451

SOIL INFORMATION

ESTIMATED VOLUME OF PCS: _____ TONS 200 CUBIC YARDS

PHYSICAL DESCRIPTION OF THE PCS (PLEASE LIST PERCENTAGES)

In addition please indicate the presence of any construction debris, vegetative matter, ash, etc.

50 % Sand 20 % Gravel 20 % Silt 5 % Clay

5 % Other/Debris (please describe): Organics

MATERIAL CLASSIFICATION

☐ MIT ☐ USDA ☐ USAEC ☐ ASEE ☐ AASHTO

All soils must meet our physical and chemical acceptance criteria. Please note- we do not accept soils with poly/plastic, hay, brick, metal, or deleterious materials (No free flowing liquids OR nuisance odors).

Please describe the process generating soils:

Excavation for new house foundation

CONTAMINATION (please check all that apply)

☐ Gasoline ☐ Diesel ☐ #2 ☐ #4 ☐ #6
☐ Lube Oil ☐ Waste Oil ☐ Jet Fuel ☐ Kerosene

☒ Other (please describe): Unknown Petroleum based "tar"

SITE HISTORY:

Please include current and former usage of site, description of release (known dates, source), sample method used (grab, composite, etc.) analytical parameters selected and any other pertinent information:

Residential since 1949. Undeveloped prior to 1948

☐ Or please see attached



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SITE DIAGRAM:

A Site diagram which includes the following information:

At least one street reference, any adjacent structures, excavation area, stockpile location, location where samples were taken from, name of individual preparing diagram, reference the site name and location and any other pertinent information.

SAMPLING CHARACTERIZATION METHOD:

☒ Stockpile ☐ In-Situ Other: _____

SOILS SAMPLING METHOD:

☒ Grab ☒ Composite ☐ Soil Boring ☐ Test Pit ☐ Headspace Screened

Additional Comments: Grab sample for VOCs,

CERTIFIED LABORATORY ANALYTICAL DATA:

Analytical Attached ☒

Please list samples ID's and/or lab reports:

SP-1 and SP-2 (TPH)

Sufficient information must be provided in the Site History to justify the limiting of the analytical requirements necessary for recycling.

☒ I, the generator/LSP/QEP, have included sufficient information justifying the limiting of the analytical requirements as part of the Site History Information accompanying the 21E Bill of Lading and Material Shipping Record. This includes, at a minimum, the following:

Analytical Parameters Selected

Screening Data (i.e. Total date for TCLP, Headspace)

Laboratory Analytical Data

Description of the Release

Physical description of the soil including the classification method used

Description of the site location with regards to former and current usage

Complete Site History

Site Diagram

GENERATOR / LSP / QEP STATEMENTS: (Check one)



I, the generator/LSP/QEP, using due diligence have determined that there is no reason to suspect or believe the PCS has been impacted by any release of oil or hazardous materials other than that of the known source or I have identified the additional oil and hazardous materials that are suspected or known to be present in the PCS, in addition to those associated with the known release including any anthropogenic contaminants.



I, the generator/LSP/QEP, realize that due diligence shall consist of a search of information and records reasonably available to the generator of the PCS sufficient to make the determination. Such records and information may include, but are not limited to, those of the generator, location of the generation (Facility if not the generator) the Department Bureau of Waste Site located.

Generator Signature: _____

Jorge Verissimo
Jorge Verissimo

Date: _____

9/24/18

LSP/QEP Signature: _____

Geoffrey Souza

Date: _____

9/24/18

LSP/QEP Name (Print): _____

Geoffrey Souza

LSP/QEP License #: _____

4122

ORIGINAL BILL OF LADING OR MATERIAL SHIPPING RECORD MUST BE AT THE FACILITIES OFFICE BEFORE THE SOIL IS SHIPPED

OMR INTERNAL USE ONLY

Facility Approval tracking# _____

VISTA # _____

DATE: _____

Facility Representative Signature: _____

Reason for Acceptance/Refusal: _____

ACCEPTED



REJECTED



Please submit form to: solls@ondrickmr.com

**Analytical Data Summary Table
Remediation Waste Summary**

**Residential Lot
85 McCabe Street
Dartmouth, Massachusetts**

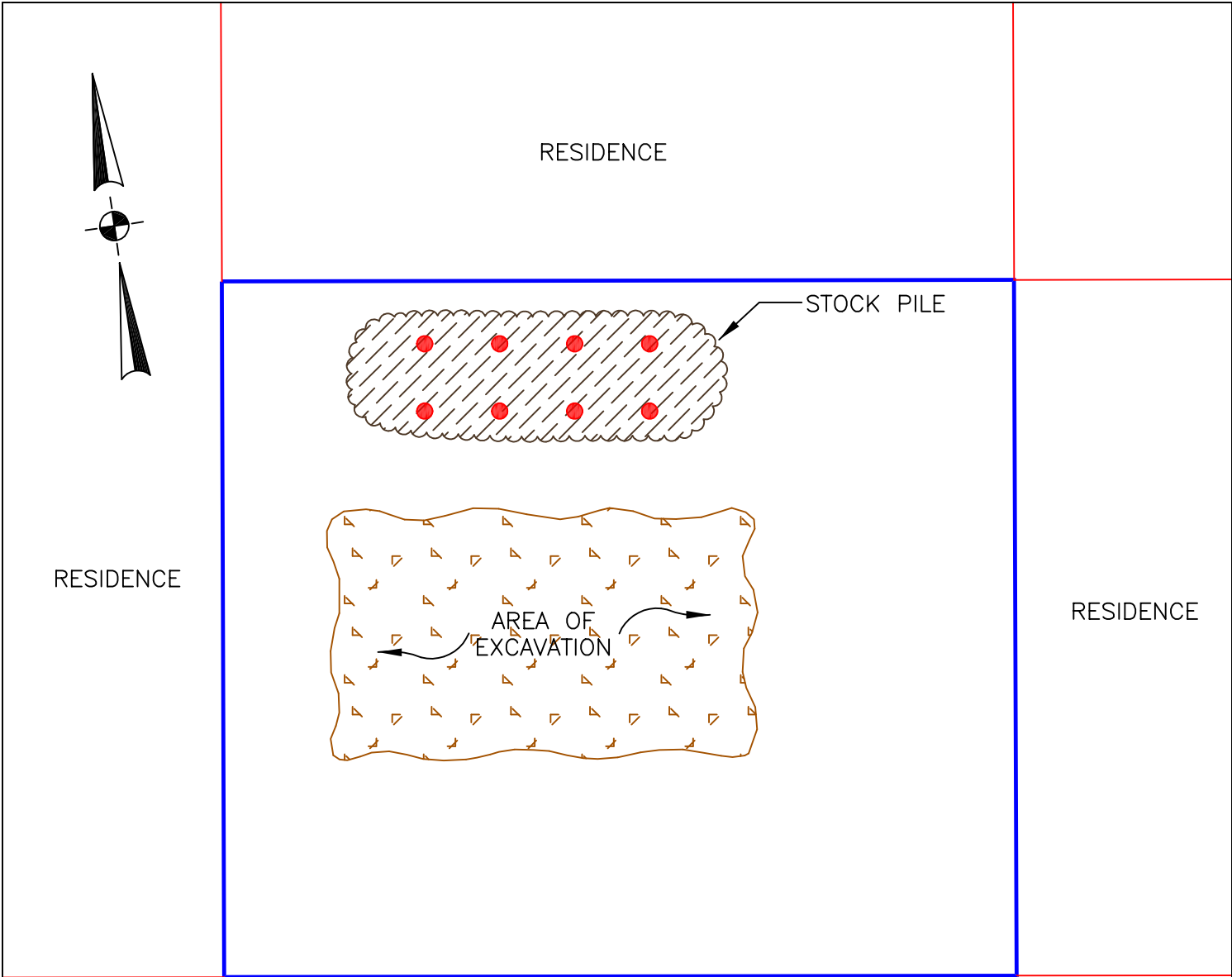
Analytical Parameter	Soil Recycling Limits (oil contaminated) (mg/kg)	Results (mg/kg)
		SP-1
Total VOCs (8260)	NA	149
Total Chlorinated Solvents	5	ND
Total SVOCs (8270)	NA	338
Total Petroleum Hydrocarbons (TPH)	60000	10800 / 12500
Total Poly-chlorinated Bi-Phenyls (PCBs)	<2	ND
Total Arsenic	30	5.27
Total Cadmium	30	1.66
Total Chromium	500	49.9
Total Lead	1000	442
Total Mercury	10	0.274
Cyanide, Reactive	non-reactive	ND
Sulfide, Reactive	non-reactive	ND
Ignitability	non-ignitable	non-ignitable
pH	2-12.5	7
TCLP Lead **	5 mg/l	2.3 mg/l

ND = Indicated parameter Not Detected above laboratory detection limits

NA = No Applicable Standard

* = Two samples submitted for TPH analysis (1 per 100 yards)

** = Required if the total concentration is above the theoretical levels at which TCLP can be exceeded



LEGEND

— PROPERTY LINE ● SOIL SAMPLE LOCATION

FIGURE 1	SITE SKETCH	SITEC ENVIRONMENTAL 769 Plain Street, Unit C Marshfield, MA 02050 Tel. (781) 319-0100 FAX (781) 834-4783
<i>appx. scale:</i> 1" = 20' 	85 McCABE STREET DARTMOUTH, MASSACHUSETTS	



ANALYTICAL REPORT

Lab Number:	L1829545
Client:	Sitec Environmental, Inc. 769 Plain Street Unit C Marshfield, MA 02050
ATTN:	Geoff Souza
Phone:	(781) 319-0100
Project Name:	MCCABE ST.
Project Number:	SE18-1375
Report Date:	08/10/18

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1829545
Report Date: 08/10/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1829545-01	SP-1	SOIL	Not Specified	07/31/18 12:30	07/31/18

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1829545
Report Date: 08/10/18

Case Narrative

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

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

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

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

HOLD POLICY

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

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

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

Authorized Signature:



Cristin Walker

Title: Technical Director/Representative

Date: 08/10/18

ORGANICS

VOLATILES

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 08/06/18 12:02

Analyst: PK

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Methylene chloride	ND		ug/kg	530	--	1
1,1-Dichloroethane	ND		ug/kg	110	--	1
Chloroform	ND		ug/kg	160	--	1
Carbon tetrachloride	ND		ug/kg	110	--	1
1,2-Dichloropropane	ND		ug/kg	110	--	1
Dibromochloromethane	ND		ug/kg	110	--	1
1,1,2-Trichloroethane	ND		ug/kg	110	--	1
Tetrachloroethene	ND		ug/kg	53	--	1
Chlorobenzene	ND		ug/kg	53	--	1
Trichlorofluoromethane	ND		ug/kg	430	--	1
1,2-Dichloroethane	ND		ug/kg	110	--	1
1,1,1-Trichloroethane	ND		ug/kg	53	--	1
Bromodichloromethane	ND		ug/kg	53	--	1
trans-1,3-Dichloropropene	ND		ug/kg	110	--	1
cis-1,3-Dichloropropene	ND		ug/kg	53	--	1
1,3-Dichloropropene, Total	ND		ug/kg	53	--	1
1,1-Dichloropropene	ND		ug/kg	53	--	1
Bromoform	ND		ug/kg	430	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	53	--	1
Benzene	180		ug/kg	53	--	1
Toluene	270		ug/kg	110	--	1
Ethylbenzene	6100		ug/kg	110	--	1
Chloromethane	ND		ug/kg	430	--	1
Bromomethane	ND		ug/kg	210	--	1
Vinyl chloride	ND		ug/kg	110	--	1
Chloroethane	ND		ug/kg	210	--	1
1,1-Dichloroethene	ND		ug/kg	110	--	1
trans-1,2-Dichloroethene	ND		ug/kg	160	--	1

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

SAMPLE RESULTS

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Trichloroethene	ND		ug/kg	53	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
Methyl tert butyl ether	ND		ug/kg	210	--	1
p/m-Xylene	6600		ug/kg	210	--	1
o-Xylene	5900		ug/kg	110	--	1
Xylenes, Total	13000		ug/kg	110	--	1
cis-1,2-Dichloroethene	ND		ug/kg	110	--	1
1,2-Dichloroethene, Total	ND		ug/kg	110	--	1
Dibromomethane	ND		ug/kg	210	--	1
1,4-Dichlorobutane	ND		ug/kg	1100	--	1
1,2,3-Trichloropropane	220		ug/kg	210	--	1
Styrene	170		ug/kg	110	--	1
Dichlorodifluoromethane	ND		ug/kg	1100	--	1
Acetone	ND		ug/kg	1100	--	1
Carbon disulfide	ND		ug/kg	1100	--	1
2-Butanone	ND		ug/kg	1100	--	1
Vinyl acetate	ND		ug/kg	1100	--	1
4-Methyl-2-pentanone	ND		ug/kg	1100	--	1
2-Hexanone	ND		ug/kg	1100	--	1
Ethyl methacrylate	ND		ug/kg	1100	--	1
Acrylonitrile	ND		ug/kg	430	--	1
Bromochloromethane	ND		ug/kg	210	--	1
Tetrahydrofuran	ND		ug/kg	430	--	1
2,2-Dichloropropane	ND		ug/kg	210	--	1
1,2-Dibromoethane	ND		ug/kg	110	--	1
1,3-Dichloropropane	ND		ug/kg	210	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	53	--	1
Bromobenzene	ND		ug/kg	210	--	1
n-Butylbenzene	480		ug/kg	110	--	1
sec-Butylbenzene	ND		ug/kg	110	--	1
tert-Butylbenzene	ND		ug/kg	210	--	1
o-Chlorotoluene	ND		ug/kg	210	--	1
p-Chlorotoluene	ND		ug/kg	210	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	320	--	1
Hexachlorobutadiene	ND		ug/kg	430	--	1

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1829545
Report Date: 08/10/18

SAMPLE RESULTS

Lab ID: L1829545-01
Client ID: SP-1
Sample Location: Not Specified

Date Collected: 07/31/18 12:30
Date Received: 07/31/18
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS-5035 - Westborough Lab						
Isopropylbenzene	2500		ug/kg	110	--	1
p-Isopropyltoluene	2100		ug/kg	110	--	1
Naphthalene	87000	E	ug/kg	430	--	1
n-Propylbenzene	1400		ug/kg	110	--	1
1,2,3-Trichlorobenzene	ND		ug/kg	210	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
1,3,5-Trimethylbenzene	7200		ug/kg	210	--	1
1,2,4-Trimethylbenzene	16000		ug/kg	210	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	530	--	1
Ethyl ether	ND		ug/kg	210	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	91		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	109		70-130
Dibromofluoromethane	87		70-130

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01 D

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Analytical Method: 1,8260C

Analytical Date: 08/07/18 09:41

Analyst: MV

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Volatile Organics by GC/MS-5035 - Westborough Lab

Naphthalene	61000		ug/kg	4300	--	10
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	106		70-130
4-Bromofluorobenzene	106		70-130
Dibromofluoromethane	90		70-130

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/07/18 08:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-10					
Methylene chloride	270		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/07/18 08:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-10					
Trichloroethene	ND		ug/kg	25	--
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,4-Dichlorobutane	ND		ug/kg	500	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
2-Butanone	ND		ug/kg	500	--
Vinyl acetate	ND		ug/kg	500	--
4-Methyl-2-pentanone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Ethyl methacrylate	ND		ug/kg	500	--
Acrolein	ND		ug/kg	1200	--
Acrylonitrile	ND		ug/kg	200	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/07/18 08:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-10					
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
1,3,5-Trichlorobenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	--
Ethyl ether	ND		ug/kg	100	--
Methyl Acetate	ND		ug/kg	200	--
Ethyl Acetate	ND		ug/kg	500	--
Isopropyl Ether	ND		ug/kg	100	--
Cyclohexane	ND		ug/kg	500	--
Tert-Butyl Alcohol	ND		ug/kg	1000	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	5000	--
Methyl cyclohexane	ND		ug/kg	200	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/07/18 08:49
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-10					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	90		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	88		70-130

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/06/18 11:11
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-5					
Methylene chloride	ND		ug/kg	250	--
1,1-Dichloroethane	ND		ug/kg	50	--
Chloroform	ND		ug/kg	75	--
Carbon tetrachloride	ND		ug/kg	50	--
1,2-Dichloropropane	ND		ug/kg	50	--
Dibromochloromethane	ND		ug/kg	50	--
1,1,2-Trichloroethane	ND		ug/kg	50	--
2-Chloroethylvinyl ether	ND		ug/kg	1000	--
Tetrachloroethene	ND		ug/kg	25	--
Chlorobenzene	ND		ug/kg	25	--
Trichlorofluoromethane	ND		ug/kg	200	--
1,2-Dichloroethane	ND		ug/kg	50	--
1,1,1-Trichloroethane	ND		ug/kg	25	--
Bromodichloromethane	ND		ug/kg	25	--
trans-1,3-Dichloropropene	ND		ug/kg	50	--
cis-1,3-Dichloropropene	ND		ug/kg	25	--
1,3-Dichloropropene, Total	ND		ug/kg	25	--
1,1-Dichloropropene	ND		ug/kg	25	--
Bromoform	ND		ug/kg	200	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	25	--
Benzene	ND		ug/kg	25	--
Toluene	ND		ug/kg	50	--
Ethylbenzene	ND		ug/kg	50	--
Chloromethane	ND		ug/kg	200	--
Bromomethane	ND		ug/kg	100	--
Vinyl chloride	ND		ug/kg	50	--
Chloroethane	ND		ug/kg	100	--
1,1-Dichloroethene	ND		ug/kg	50	--
trans-1,2-Dichloroethene	ND		ug/kg	75	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/06/18 11:11
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-5					
Trichloroethene	ND		ug/kg	25	--
1,2-Dichlorobenzene	ND		ug/kg	100	--
1,3-Dichlorobenzene	ND		ug/kg	100	--
1,4-Dichlorobenzene	ND		ug/kg	100	--
Methyl tert butyl ether	ND		ug/kg	100	--
p/m-Xylene	ND		ug/kg	100	--
o-Xylene	ND		ug/kg	50	--
Xylenes, Total	ND		ug/kg	50	--
cis-1,2-Dichloroethene	ND		ug/kg	50	--
1,2-Dichloroethene, Total	ND		ug/kg	50	--
Dibromomethane	ND		ug/kg	100	--
1,4-Dichlorobutane	ND		ug/kg	500	--
1,2,3-Trichloropropane	ND		ug/kg	100	--
Styrene	ND		ug/kg	50	--
Dichlorodifluoromethane	ND		ug/kg	500	--
Acetone	ND		ug/kg	500	--
Carbon disulfide	ND		ug/kg	500	--
2-Butanone	ND		ug/kg	500	--
Vinyl acetate	ND		ug/kg	500	--
4-Methyl-2-pentanone	ND		ug/kg	500	--
2-Hexanone	ND		ug/kg	500	--
Ethyl methacrylate	ND		ug/kg	500	--
Acrolein	ND		ug/kg	1200	--
Acrylonitrile	ND		ug/kg	200	--
Bromochloromethane	ND		ug/kg	100	--
Tetrahydrofuran	ND		ug/kg	200	--
2,2-Dichloropropane	ND		ug/kg	100	--
1,2-Dibromoethane	ND		ug/kg	50	--
1,3-Dichloropropane	ND		ug/kg	100	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C
 Analytical Date: 08/06/18 11:11
 Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-5					
1,1,1,2-Tetrachloroethane	ND		ug/kg	25	--
Bromobenzene	ND		ug/kg	100	--
n-Butylbenzene	ND		ug/kg	50	--
sec-Butylbenzene	ND		ug/kg	50	--
tert-Butylbenzene	ND		ug/kg	100	--
1,3,5-Trichlorobenzene	ND		ug/kg	100	--
o-Chlorotoluene	ND		ug/kg	100	--
p-Chlorotoluene	ND		ug/kg	100	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	150	--
Hexachlorobutadiene	ND		ug/kg	200	--
Isopropylbenzene	ND		ug/kg	50	--
p-Isopropyltoluene	ND		ug/kg	50	--
Naphthalene	ND		ug/kg	200	--
n-Propylbenzene	ND		ug/kg	50	--
1,2,3-Trichlorobenzene	ND		ug/kg	100	--
1,2,4-Trichlorobenzene	ND		ug/kg	100	--
1,3,5-Trimethylbenzene	ND		ug/kg	100	--
1,2,4-Trimethylbenzene	ND		ug/kg	100	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	250	--
Ethyl ether	ND		ug/kg	100	--
Methyl Acetate	ND		ug/kg	200	--
Ethyl Acetate	ND		ug/kg	500	--
Isopropyl Ether	ND		ug/kg	100	--
Cyclohexane	ND		ug/kg	500	--
Tert-Butyl Alcohol	ND		ug/kg	1000	--
Ethyl-Tert-Butyl-Ether	ND		ug/kg	100	--
Tertiary-Amyl Methyl Ether	ND		ug/kg	100	--
1,4-Dioxane	ND		ug/kg	5000	--
Methyl cyclohexane	ND		ug/kg	200	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8260C

Analytical Date: 08/06/18 11:11

Analyst: MV

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 High - Westborough Lab for sample(s): 01 Batch: WG1143515-5					
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	200	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	92		70-130
Toluene-d8	107		70-130
4-Bromofluorobenzene	107		70-130
Dibromofluoromethane	88		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-3 WG1143515-4								
Methylene chloride	97		92		70-130	5		30
1,1-Dichloroethane	94		90		70-130	4		30
Chloroform	89		85		70-130	5		30
Carbon tetrachloride	74		70		70-130	6		30
1,2-Dichloropropane	99		96		70-130	3		30
Dibromochloromethane	91		90		70-130	1		30
1,1,2-Trichloroethane	103		102		70-130	1		30
2-Chloroethylvinyl ether	97		100		70-130	3		30
Tetrachloroethene	85		80		70-130	6		30
Chlorobenzene	94		90		70-130	4		30
Trichlorofluoromethane	68	Q	60	Q	70-139	13		30
1,2-Dichloroethane	86		83		70-130	4		30
1,1,1-Trichloroethane	78		75		70-130	4		30
Bromodichloromethane	86		83		70-130	4		30
trans-1,3-Dichloropropene	98		95		70-130	3		30
cis-1,3-Dichloropropene	90		87		70-130	3		30
1,1-Dichloropropene	86		80		70-130	7		30
Bromoform	93		93		70-130	0		30
1,1,2,2-Tetrachloroethane	107		110		70-130	3		30
Benzene	91		87		70-130	4		30
Toluene	97		90		70-130	7		30
Ethylbenzene	95		90		70-130	5		30
Chloromethane	97		88		52-130	10		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-3 WG1143515-4								
Bromomethane	80		76		57-147	5		30
Vinyl chloride	72		66	Q	67-130	9		30
Chloroethane	64		60		50-151	6		30
1,1-Dichloroethene	83		78		65-135	6		30
trans-1,2-Dichloroethene	86		82		70-130	5		30
Trichloroethene	82		79		70-130	4		30
1,2-Dichlorobenzene	97		94		70-130	3		30
1,3-Dichlorobenzene	96		91		70-130	5		30
1,4-Dichlorobenzene	95		92		70-130	3		30
Methyl tert butyl ether	89		88		66-130	1		30
p/m-Xylene	93		88		70-130	6		30
o-Xylene	94		90		70-130	4		30
cis-1,2-Dichloroethene	88		85		70-130	3		30
Dibromomethane	86		85		70-130	1		30
1,4-Dichlorobutane	113		114		70-130	1		30
1,2,3-Trichloropropane	105		109		68-130	4		30
Styrene	104		101		70-130	3		30
Dichlorodifluoromethane	68		63		30-146	8		30
Acetone	97		97		54-140	0		30
Carbon disulfide	84		78		59-130	7		30
2-Butanone	100		105		70-130	5		30
Vinyl acetate	99		98		70-130	1		30
4-Methyl-2-pentanone	109		112		70-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-3 WG1143515-4								
2-Hexanone	98		100		70-130	2		30
Ethyl methacrylate	99		99		70-130	0		30
Acrolein	94		95		70-130	1		30
Acrylonitrile	103		107		70-130	4		30
Bromochloromethane	86		84		70-130	2		30
Tetrahydrofuran	99		103		66-130	4		30
2,2-Dichloropropane	79		75		70-130	5		30
1,2-Dibromoethane	95		94		70-130	1		30
1,3-Dichloropropane	105		102		69-130	3		30
1,1,1,2-Tetrachloroethane	92		87		70-130	6		30
Bromobenzene	96		94		70-130	2		30
n-Butylbenzene	98		92		70-130	6		30
sec-Butylbenzene	99		93		70-130	6		30
tert-Butylbenzene	97		92		70-130	5		30
1,3,5-Trichlorobenzene	87		82		70-139	6		30
o-Chlorotoluene	114		110		70-130	4		30
p-Chlorotoluene	101		96		70-130	5		30
1,2-Dibromo-3-chloropropane	84		88		68-130	5		30
Hexachlorobutadiene	87		81		67-130	7		30
Isopropylbenzene	99		94		70-130	5		30
p-Isopropyltoluene	96		91		70-130	5		30
Naphthalene	97		97		70-130	0		30
n-Propylbenzene	101		95		70-130	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-3 WG1143515-4								
1,2,3-Trichlorobenzene	93		90		70-130	3		30
1,2,4-Trichlorobenzene	90		85		70-130	6		30
1,3,5-Trimethylbenzene	98		94		70-130	4		30
1,2,4-Trimethylbenzene	98		93		70-130	5		30
trans-1,4-Dichloro-2-butene	99		102		70-130	3		30
Ethyl ether	96		94		67-130	2		30
Methyl Acetate	100		102		65-130	2		30
Ethyl Acetate	100		102		70-130	2		30
Isopropyl Ether	106		102		66-130	4		30
Cyclohexane	92		86		70-130	7		30
Tert-Butyl Alcohol	82		86		70-130	5		30
Ethyl-Tert-Butyl-Ether	93		90		70-130	3		30
Tertiary-Amyl Methyl Ether	86		85		70-130	1		30
1,4-Dioxane	81		86		65-136	6		30
Methyl cyclohexane	82		78		70-130	5		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	79		73		70-130	8		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	94		94		70-130
Toluene-d8	109		108		70-130
4-Bromofluorobenzene	108		108		70-130
Dibromofluoromethane	90		92		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-8 WG1143515-9								
Methylene chloride	113		114		70-130	1		30
1,1-Dichloroethane	103		103		70-130	0		30
Chloroform	96		96		70-130	0		30
Carbon tetrachloride	88		86		70-130	2		30
1,2-Dichloropropane	107		108		70-130	1		30
Dibromochloromethane	99		101		70-130	2		30
1,1,2-Trichloroethane	109		110		70-130	1		30
2-Chloroethylvinyl ether	106		111		70-130	5		30
Tetrachloroethene	101		100		70-130	1		30
Chlorobenzene	104		104		70-130	0		30
Trichlorofluoromethane	83		79		70-139	5		30
1,2-Dichloroethane	90		91		70-130	1		30
1,1,1-Trichloroethane	91		90		70-130	1		30
Bromodichloromethane	92		94		70-130	2		30
trans-1,3-Dichloropropene	103		106		70-130	3		30
cis-1,3-Dichloropropene	98		100		70-130	2		30
1,1-Dichloropropene	104		100		70-130	4		30
Bromoform	100		103		70-130	3		30
1,1,2,2-Tetrachloroethane	111		117		70-130	5		30
Benzene	102		101		70-130	1		30
Toluene	106		106		70-130	0		30
Ethylbenzene	106		106		70-130	0		30
Chloromethane	103		100		52-130	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-8 WG1143515-9								
Bromomethane	96		93		57-147	3		30
Vinyl chloride	81		80		67-130	1		30
Chloroethane	72		71		50-151	1		30
1,1-Dichloroethene	98		96		65-135	2		30
trans-1,2-Dichloroethene	101		98		70-130	3		30
Trichloroethene	96		96		70-130	0		30
1,2-Dichlorobenzene	106		107		70-130	1		30
1,3-Dichlorobenzene	107		107		70-130	0		30
1,4-Dichlorobenzene	108		107		70-130	1		30
Methyl tert butyl ether	95		98		66-130	3		30
p/m-Xylene	105		105		70-130	0		30
o-Xylene	103		105		70-130	2		30
cis-1,2-Dichloroethene	100		99		70-130	1		30
Dibromomethane	93		96		70-130	3		30
1,4-Dichlorobutane	116		120		70-130	3		30
1,2,3-Trichloropropane	111		116		68-130	4		30
Styrene	111		111		70-130	0		30
Dichlorodifluoromethane	73		73		30-146	0		30
Acetone	107		101		54-140	6		30
Carbon disulfide	96		95		59-130	1		30
2-Butanone	120		117		70-130	3		30
Vinyl acetate	104		109		70-130	5		30
4-Methyl-2-pentanone	114		122		70-130	7		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-8 WG1143515-9								
2-Hexanone	101		108		70-130	7		30
Ethyl methacrylate	106		110		70-130	4		30
Acrolein	102		109		70-130	7		30
Acrylonitrile	108		114		70-130	5		30
Bromochloromethane	97		98		70-130	1		30
Tetrahydrofuran	104		109		66-130	5		30
2,2-Dichloropropane	93		92		70-130	1		30
1,2-Dibromoethane	101		106		70-130	5		30
1,3-Dichloropropane	109		112		69-130	3		30
1,1,1,2-Tetrachloroethane	100		101		70-130	1		30
Bromobenzene	107		107		70-130	0		30
n-Butylbenzene	115		114		70-130	1		30
sec-Butylbenzene	113		111		70-130	2		30
tert-Butylbenzene	110		109		70-130	1		30
1,3,5-Trichlorobenzene	106		104		70-139	2		30
o-Chlorotoluene	127		127		70-130	0		30
p-Chlorotoluene	112		111		70-130	1		30
1,2-Dibromo-3-chloropropane	94		100		68-130	6		30
Hexachlorobutadiene	106		105		67-130	1		30
Isopropylbenzene	112		110		70-130	2		30
p-Isopropyltoluene	111		110		70-130	1		30
Naphthalene	104		110		70-130	6		30
n-Propylbenzene	114		113		70-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 High - Westborough Lab Associated sample(s): 01 Batch: WG1143515-8 WG1143515-9								
1,2,3-Trichlorobenzene	106		108		70-130	2		30
1,2,4-Trichlorobenzene	107		107		70-130	0		30
1,3,5-Trimethylbenzene	111		111		70-130	0		30
1,2,4-Trimethylbenzene	110		109		70-130	1		30
trans-1,4-Dichloro-2-butene	104		108		70-130	4		30
Ethyl ether	103		106		67-130	3		30
Methyl Acetate	102		108		65-130	6		30
Ethyl Acetate	104		111		70-130	7		30
Isopropyl Ether	111		112		66-130	1		30
Cyclohexane	105		103		70-130	2		30
Tert-Butyl Alcohol	87		94		70-130	8		30
Ethyl-Tert-Butyl-Ether	99		100		70-130	1		30
Tertiary-Amyl Methyl Ether	94		96		70-130	2		30
1,4-Dioxane	91		96		65-136	5		30
Methyl cyclohexane	98		97		70-130	1		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	94		92		70-130	2		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	90		91		70-130
Toluene-d8	107		106		70-130
4-Bromofluorobenzene	107		107		70-130
Dibromofluoromethane	90		93		70-130

SEMIVOLATILES

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8270D

Extraction Date: 08/08/18 09:00

Analytical Date: 08/09/18 14:34

Analyst: RC

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	12000	E	ug/kg	170	--	1
Benzidine	ND		ug/kg	700	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	210	--	1
Hexachlorobenzene	ND		ug/kg	130	--	1
Bis(2-chloroethyl)ether	ND		ug/kg	190	--	1
2-Chloronaphthalene	ND		ug/kg	210	--	1
1,2-Dichlorobenzene	ND		ug/kg	210	--	1
1,3-Dichlorobenzene	ND		ug/kg	210	--	1
1,4-Dichlorobenzene	ND		ug/kg	210	--	1
3,3'-Dichlorobenzidine	ND		ug/kg	210	--	1
2,4-Dinitrotoluene	ND		ug/kg	210	--	1
2,6-Dinitrotoluene	ND		ug/kg	210	--	1
Azobenzene	ND		ug/kg	210	--	1
Fluoranthene	26000	E	ug/kg	130	--	1
4-Chlorophenyl phenyl ether	ND		ug/kg	210	--	1
4-Bromophenyl phenyl ether	ND		ug/kg	210	--	1
Bis(2-chloroisopropyl)ether	ND		ug/kg	250	--	1
Bis(2-chloroethoxy)methane	ND		ug/kg	230	--	1
Hexachlorobutadiene	ND		ug/kg	210	--	1
Hexachlorocyclopentadiene	ND		ug/kg	600	--	1
Hexachloroethane	ND		ug/kg	170	--	1
Isophorone	ND		ug/kg	190	--	1
Naphthalene	20000	E	ug/kg	210	--	1
Nitrobenzene	ND		ug/kg	190	--	1
NDPA/DPA	ND		ug/kg	170	--	1
n-Nitrosodi-n-propylamine	ND		ug/kg	210	--	1
Bis(2-ethylhexyl)phthalate	ND		ug/kg	210	--	1
Butyl benzyl phthalate	ND		ug/kg	210	--	1

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

SAMPLE RESULTS

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Di-n-butylphthalate	ND		ug/kg	210	--	1
Di-n-octylphthalate	ND		ug/kg	210	--	1
Diethyl phthalate	ND		ug/kg	210	--	1
Dimethyl phthalate	ND		ug/kg	210	--	1
Benzo(a)anthracene	16000	E	ug/kg	130	--	1
Benzo(a)pyrene	12000	E	ug/kg	170	--	1
Benzo(b)fluoranthene	12000	E	ug/kg	130	--	1
Benzo(k)fluoranthene	2700		ug/kg	130	--	1
Chrysene	19000	E	ug/kg	130	--	1
Acenaphthylene	8800	E	ug/kg	170	--	1
Anthracene	12000	E	ug/kg	130	--	1
Benzo(ghi)perylene	5700		ug/kg	170	--	1
Fluorene	20000	E	ug/kg	210	--	1
Phenanthrene	66000	E	ug/kg	130	--	1
Dibenzo(a,h)anthracene	2000		ug/kg	130	--	1
Indeno(1,2,3-cd)pyrene	5400		ug/kg	170	--	1
Pyrene	42000	E	ug/kg	130	--	1
Biphenyl	4400		ug/kg	480	--	1
Aniline	ND		ug/kg	250	--	1
4-Chloroaniline	ND		ug/kg	210	--	1
1-Methylnaphthalene	41000	E	ug/kg	210	--	1
2-Nitroaniline	ND		ug/kg	210	--	1
3-Nitroaniline	ND		ug/kg	210	--	1
4-Nitroaniline	ND		ug/kg	210	--	1
Dibenzofuran	1400		ug/kg	210	--	1
2-Methylnaphthalene	35000	E	ug/kg	250	--	1
n-Nitrosodimethylamine	ND		ug/kg	420	--	1
2,4,6-Trichlorophenol	ND		ug/kg	130	--	1
p-Chloro-m-cresol	ND		ug/kg	210	--	1
2-Chlorophenol	ND		ug/kg	210	--	1
2,4-Dichlorophenol	ND		ug/kg	190	--	1
2,4-Dimethylphenol	ND		ug/kg	210	--	1
2-Nitrophenol	ND		ug/kg	460	--	1
4-Nitrophenol	ND		ug/kg	300	--	1
2,4-Dinitrophenol	ND		ug/kg	1000	--	1
4,6-Dinitro-o-cresol	ND		ug/kg	550	--	1
Pentachlorophenol	ND		ug/kg	170	--	1

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Phenol	ND		ug/kg	210	--	1
2-Methylphenol	ND		ug/kg	210	--	1
3-Methylphenol/4-Methylphenol	ND		ug/kg	300	--	1
2,4,5-Trichlorophenol	ND		ug/kg	210	--	1
Benzoic Acid	ND		ug/kg	680	--	1
Benzyl Alcohol	ND		ug/kg	210	--	1
Carbazole	790		ug/kg	210	--	1
Pyridine	ND		ug/kg	230	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	76		25-120
Phenol-d6	77		10-120
Nitrobenzene-d5	87		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	62		18-120

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01 D

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8270D

Extraction Date: 08/08/18 09:00

Analytical Date: 08/09/18 15:26

Analyst: RC

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Acenaphthene	10000		ug/kg	1700	--	10
Fluoranthene	21000		ug/kg	1300	--	10
Naphthalene	16000		ug/kg	2100	--	10
Benzo(a)anthracene	14000		ug/kg	1300	--	10
Benzo(a)pyrene	12000		ug/kg	1700	--	10
Benzo(b)fluoranthene	10000		ug/kg	1300	--	10
Chrysene	18000		ug/kg	1300	--	10
Acenaphthylene	6600		ug/kg	1700	--	10
Anthracene	9500		ug/kg	1300	--	10
Fluorene	15000		ug/kg	2100	--	10
Phenanthrene	50000		ug/kg	1300	--	10
Pyrene	34000		ug/kg	1300	--	10
1-Methylnaphthalene	31000		ug/kg	2100	--	10
2-Methylnaphthalene	26000		ug/kg	2500	--	10

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 08/08/18 10:01
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 08/07/18 12:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1143728-1					
Acenaphthene	ND		ug/kg	130	--
Benzidine	ND		ug/kg	540	--
1,2,4-Trichlorobenzene	ND		ug/kg	160	--
Hexachlorobenzene	ND		ug/kg	98	--
Bis(2-chloroethyl)ether	ND		ug/kg	150	--
2-Chloronaphthalene	ND		ug/kg	160	--
1,2-Dichlorobenzene	ND		ug/kg	160	--
1,3-Dichlorobenzene	ND		ug/kg	160	--
1,4-Dichlorobenzene	ND		ug/kg	160	--
3,3'-Dichlorobenzidine	ND		ug/kg	160	--
2,4-Dinitrotoluene	ND		ug/kg	160	--
2,6-Dinitrotoluene	ND		ug/kg	160	--
Azobenzene	ND		ug/kg	160	--
Fluoranthene	ND		ug/kg	98	--
4-Chlorophenyl phenyl ether	ND		ug/kg	160	--
4-Bromophenyl phenyl ether	ND		ug/kg	160	--
Bis(2-chloroisopropyl)ether	ND		ug/kg	200	--
Bis(2-chloroethoxy)methane	ND		ug/kg	180	--
Hexachlorobutadiene	ND		ug/kg	160	--
Hexachlorocyclopentadiene	ND		ug/kg	470	--
Hexachloroethane	ND		ug/kg	130	--
Isophorone	ND		ug/kg	150	--
Naphthalene	ND		ug/kg	160	--
Nitrobenzene	ND		ug/kg	150	--
NDPA/DPA	ND		ug/kg	130	--
n-Nitrosodi-n-propylamine	ND		ug/kg	160	--
Bis(2-ethylhexyl)phthalate	ND		ug/kg	160	--
Butyl benzyl phthalate	ND		ug/kg	160	--
Di-n-butylphthalate	ND		ug/kg	160	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 08/08/18 10:01
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 08/07/18 12:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1143728-1					
Di-n-octylphthalate	ND		ug/kg	160	--
Diethyl phthalate	ND		ug/kg	160	--
Dimethyl phthalate	ND		ug/kg	160	--
Benzo(a)anthracene	ND		ug/kg	98	--
Benzo(a)pyrene	ND		ug/kg	130	--
Benzo(b)fluoranthene	ND		ug/kg	98	--
Benzo(k)fluoranthene	ND		ug/kg	98	--
Chrysene	ND		ug/kg	98	--
Acenaphthylene	ND		ug/kg	130	--
Anthracene	ND		ug/kg	98	--
Benzo(ghi)perylene	ND		ug/kg	130	--
Fluorene	ND		ug/kg	160	--
Phenanthrene	ND		ug/kg	98	--
Dibenzo(a,h)anthracene	ND		ug/kg	98	--
Indeno(1,2,3-cd)pyrene	ND		ug/kg	130	--
Pyrene	ND		ug/kg	98	--
Biphenyl	ND		ug/kg	370	--
Aniline	ND		ug/kg	200	--
4-Chloroaniline	ND		ug/kg	160	--
1-Methylnaphthalene	ND		ug/kg	160	--
2-Nitroaniline	ND		ug/kg	160	--
3-Nitroaniline	ND		ug/kg	160	--
4-Nitroaniline	ND		ug/kg	160	--
Dibenzofuran	ND		ug/kg	160	--
2-Methylnaphthalene	ND		ug/kg	200	--
n-Nitrosodimethylamine	ND		ug/kg	330	--
2,4,6-Trichlorophenol	ND		ug/kg	98	--
p-Chloro-m-cresol	ND		ug/kg	160	--
2-Chlorophenol	ND		ug/kg	160	--

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 08/08/18 10:01
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 08/07/18 12:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1143728-1					
2,4-Dichlorophenol	ND		ug/kg	150	--
2,4-Dimethylphenol	ND		ug/kg	160	--
2-Nitrophenol	ND		ug/kg	350	--
4-Nitrophenol	ND		ug/kg	230	--
2,4-Dinitrophenol	ND		ug/kg	780	--
4,6-Dinitro-o-cresol	ND		ug/kg	420	--
Pentachlorophenol	ND		ug/kg	130	--
Phenol	ND		ug/kg	160	--
2-Methylphenol	ND		ug/kg	160	--
3-Methylphenol/4-Methylphenol	ND		ug/kg	240	--
2,4,5-Trichlorophenol	ND		ug/kg	160	--
Benzoic Acid	ND		ug/kg	530	--
Benzyl Alcohol	ND		ug/kg	160	--
Carbazole	ND		ug/kg	160	--
Pyridine	ND		ug/kg	180	--

Tentatively Identified Compounds

No Tentatively Identified Compounds ND ug/kg

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8270D
 Analytical Date: 08/08/18 10:01
 Analyst: EK

Extraction Method: EPA 3546
 Extraction Date: 08/07/18 12:22

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01 Batch: WG1143728-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	74		25-120
Phenol-d6	78		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	76		30-120
2,4,6-Tribromophenol	83		10-136
4-Terphenyl-d14	86		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1143728-2 WG1143728-3								
Acenaphthene	78		74		31-137	5		50
Benzidine	42		35		10-66	18		50
1,2,4-Trichlorobenzene	76		74		38-107	3		50
Hexachlorobenzene	83		76		40-140	9		50
Bis(2-chloroethyl)ether	72		71		40-140	1		50
2-Chloronaphthalene	80		75		40-140	6		50
1,2-Dichlorobenzene	71		73		40-140	3		50
1,3-Dichlorobenzene	68		71		40-140	4		50
1,4-Dichlorobenzene	70		72		28-104	3		50
3,3'-Dichlorobenzidine	67		62		40-140	8		50
2,4-Dinitrotoluene	94		91		40-132	3		50
2,6-Dinitrotoluene	90		82		40-140	9		50
Azobenzene	82		78		40-140	5		50
Fluoranthene	83		78		40-140	6		50
4-Chlorophenyl phenyl ether	80		74		40-140	8		50
4-Bromophenyl phenyl ether	83		76		40-140	9		50
Bis(2-chloroisopropyl)ether	77		74		40-140	4		50
Bis(2-chloroethoxy)methane	77		73		40-117	5		50
Hexachlorobutadiene	77		74		40-140	4		50
Hexachlorocyclopentadiene	64		59		40-140	8		50
Hexachloroethane	72		72		40-140	0		50
Isophorone	77		75		40-140	3		50
Naphthalene	75		74		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1143728-2 WG1143728-3								
Nitrobenzene	80		77		40-140	4		50
NDPA/DPA	79		75		36-157	5		50
n-Nitrosodi-n-propylamine	77		73		32-121	5		50
Bis(2-ethylhexyl)phthalate	87		81		40-140	7		50
Butyl benzyl phthalate	87		80		40-140	8		50
Di-n-butylphthalate	87		80		40-140	8		50
Di-n-octylphthalate	89		82		40-140	8		50
Diethyl phthalate	83		77		40-140	8		50
Dimethyl phthalate	82		77		40-140	6		50
Benzo(a)anthracene	79		74		40-140	7		50
Benzo(a)pyrene	79		75		40-140	5		50
Benzo(b)fluoranthene	74		81		40-140	9		50
Benzo(k)fluoranthene	83		69		40-140	18		50
Chrysene	80		75		40-140	6		50
Acenaphthylene	82		76		40-140	8		50
Anthracene	82		77		40-140	6		50
Benzo(ghi)perylene	79		75		40-140	5		50
Fluorene	80		77		40-140	4		50
Phenanthrene	80		74		40-140	8		50
Dibenzo(a,h)anthracene	79		74		40-140	7		50
Indeno(1,2,3-cd)pyrene	78		71		40-140	9		50
Pyrene	82		75		35-142	9		50
Biphenyl	84		79		54-104	6		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1143728-2 WG1143728-3								
Aniline	54		50		40-140	8		50
4-Chloroaniline	63		58		40-140	8		50
1-Methylnaphthalene	83		76		26-130	9		50
2-Nitroaniline	90		83		47-134	8		50
3-Nitroaniline	72		70		26-129	3		50
4-Nitroaniline	81		78		41-125	4		50
Dibenzofuran	80		77		40-140	4		50
2-Methylnaphthalene	78		76		40-140	3		50
n-Nitrosodimethylamine	67		69		22-100	3		50
2,4,6-Trichlorophenol	85		81		30-130	5		50
p-Chloro-m-cresol	86		81		26-103	6		50
2-Chlorophenol	80		78		25-102	3		50
2,4-Dichlorophenol	86		82		30-130	5		50
2,4-Dimethylphenol	81		79		30-130	3		50
2-Nitrophenol	87		84		30-130	4		50
4-Nitrophenol	94		92		11-114	2		50
2,4-Dinitrophenol	81		77		4-130	5		50
4,6-Dinitro-o-cresol	86		83		10-130	4		50
Pentachlorophenol	82		79		17-109	4		50
Phenol	73		69		26-90	6		50
2-Methylphenol	81		78		30-130	4		50
3-Methylphenol/4-Methylphenol	79		74		30-130	7		50
2,4,5-Trichlorophenol	90		83		30-130	8		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 Batch: WG1143728-2 WG1143728-3								
Benzoic Acid	62		55		10-110	12		50
Benzyl Alcohol	81		78		40-140	4		50
Carbazole	83		78		54-128	6		50
Pyridine	57		63		10-93	10		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	79		79		25-120
Phenol-d6	83		80		10-120
Nitrobenzene-d5	83		80		23-120
2-Fluorobiphenyl	80		75		30-120
2,4,6-Tribromophenol	87		84		10-136
4-Terphenyl-d14	81		75		18-120

PETROLEUM HYDROCARBONS

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01 D

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8015D(M)

Extraction Date: 08/06/18 19:01

Analytical Date: 08/08/18 18:21

Analyst: MEO

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Petroleum Hydrocarbon Quantitation - Westborough Lab

TPH	10800000		ug/kg	819000	--	20
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Surrogate**% Recovery****Qualifier****Acceptance
Criteria**

o-Terphenyl

112

40-140

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8015D(M)
 Analytical Date: 08/06/18 15:41
 Analyst: DG

Extraction Method: EPA 3546
 Extraction Date: 08/06/18 01:20

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1143153-1					
TPH	ND		ug/kg	31600	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	77		40-140

Lab Control Sample Analysis**Batch Quality Control****Project Name:** MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1143153-2								
TPH	81		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	79				40-140

PCBS

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Extraction Method: EPA 3546

Analytical Method: 1,8082A

Extraction Date: 08/08/18 08:16

Analytical Date: 08/10/18 09:34

Cleanup Method: EPA 3665A

Analyst: WR

Cleanup Date: 08/09/18

Percent Solids: 78%

Cleanup Method: EPA 3660B

Cleanup Date: 08/09/18

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		ug/kg	42.2	--	1	A
Aroclor 1221	ND		ug/kg	42.2	--	1	A
Aroclor 1232	ND		ug/kg	42.2	--	1	A
Aroclor 1242	ND		ug/kg	42.2	--	1	A
Aroclor 1248	ND		ug/kg	42.2	--	1	A
Aroclor 1254	ND		ug/kg	42.2	--	1	A
Aroclor 1260	ND		ug/kg	42.2	--	1	A
Aroclor 1262	ND		ug/kg	42.2	--	1	A
Aroclor 1268	ND		ug/kg	42.2	--	1	B
PCBs, Total	ND		ug/kg	42.2	--	1	B

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	75		30-150	A
Decachlorobiphenyl	118		30-150	A
2,4,5,6-Tetrachloro-m-xylene	65		30-150	B
Decachlorobiphenyl	141		30-150	B

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Analytical Method: 1,8082A
 Analytical Date: 08/08/18 21:06
 Analyst: HT

Extraction Method: EPA 3546
 Extraction Date: 08/08/18 08:16
 Cleanup Method: EPA 3665A
 Cleanup Date: 08/08/18
 Cleanup Method: EPA 3660B
 Cleanup Date: 08/08/18

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01 Batch: WG1144049-1						
Aroclor 1016	ND		ug/kg	32.3	--	A
Aroclor 1221	ND		ug/kg	32.3	--	A
Aroclor 1232	ND		ug/kg	32.3	--	A
Aroclor 1242	ND		ug/kg	32.3	--	A
Aroclor 1248	ND		ug/kg	32.3	--	A
Aroclor 1254	ND		ug/kg	32.3	--	A
Aroclor 1260	ND		ug/kg	32.3	--	A
Aroclor 1262	ND		ug/kg	32.3	--	A
Aroclor 1268	ND		ug/kg	32.3	--	A
PCBs, Total	ND		ug/kg	32.3	--	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	79		30-150	A
Decachlorobiphenyl	74		30-150	A
2,4,5,6-Tetrachloro-m-xylene	76		30-150	B
Decachlorobiphenyl	75		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01 Batch: WG1144049-2 WG1144049-3									
Aroclor 1016	72		76		40-140	5		50	A
Aroclor 1260	63		67		40-140	6		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		84		30-150	A
Decachlorobiphenyl	61		64		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		84		30-150	B
Decachlorobiphenyl	69		84		30-150	B

METALS

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**SAMPLE RESULTS**

Lab ID: L1829545-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 78%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.27		mg/kg	0.488	--	1	08/08/18 12:12	08/09/18 08:16	EPA 3050B	1,6010D	LC
Cadmium, Total	1.66		mg/kg	0.488	--	1	08/08/18 12:12	08/09/18 08:16	EPA 3050B	1,6010D	LC
Chromium, Total	49.9		mg/kg	0.488	--	1	08/08/18 12:12	08/09/18 08:16	EPA 3050B	1,6010D	LC
Lead, Total	442		mg/kg	2.44	--	1	08/08/18 12:12	08/09/18 08:16	EPA 3050B	1,6010D	LC
Mercury, Total	0.274		mg/kg	0.080	--	1	08/07/18 11:00	08/07/18 21:49	EPA 7471B	1,7471B	EA



Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1143644-1										
Mercury, Total	ND		mg/kg	0.083	--	1	08/07/18 11:00	08/07/18 21:33	1,7471B	EA

Prep Information

Digestion Method: EPA 7471B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1144125-1										
Arsenic, Total	ND		mg/kg	0.400	--	1	08/08/18 12:12	08/09/18 07:51	1,6010D	LC
Cadmium, Total	ND		mg/kg	0.400	--	1	08/08/18 12:12	08/09/18 07:51	1,6010D	LC
Chromium, Total	ND		mg/kg	0.400	--	1	08/08/18 12:12	08/09/18 07:51	1,6010D	LC
Lead, Total	ND		mg/kg	2.00	--	1	08/08/18 12:12	08/09/18 07:51	1,6010D	LC

Prep Information

Digestion Method: EPA 3050B

Lab Control Sample Analysis Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1143644-2 SRM Lot Number: D098-540								
Mercury, Total	134		-		50-149	-		
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1144125-2 SRM Lot Number: D098-540								
Arsenic, Total	103		-		83-117	-		
Cadmium, Total	98		-		82-117	-		
Chromium, Total	91		-		83-119	-		
Lead, Total	97		-		82-117	-		

Matrix Spike Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1143644-3 QC Sample: L1829809-02 Client ID: MS Sample												
Mercury, Total	ND	0.148	0.259	175	Q	-	-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1144125-3 QC Sample: L1828672-03 Client ID: MS Sample												
Arsenic, Total	2.30	9.76	12.1	100		-	-		75-125	-		20
Cadmium, Total	ND	4.15	3.29	79		-	-		75-125	-		20
Chromium, Total	11.0	16.3	28.0	104		-	-		75-125	-		20
Lead, Total	8.20	41.5	46.8	93		-	-		75-125	-		20

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Duplicate Analysis

Batch Quality Control

Lab Number: L1829545
Report Date: 08/10/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1143644-4 QC Sample: L1829809-02 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1144125-4 QC Sample: L1828672-03 Client ID: DUP Sample						
Arsenic, Total	2.30	2.62	mg/kg	13		20
Cadmium, Total	ND	ND	mg/kg	NC		20
Chromium, Total	11.0	11.3	mg/kg	3		20
Lead, Total	8.20	12.4	mg/kg	41	Q	20

INORGANICS & MISCELLANEOUS

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

SAMPLE RESULTS

Lab ID: L1829545-01

Client ID: SP-1

Sample Location: Not Specified

Date Collected: 07/31/18 12:30

Date Received: 07/31/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Test Material Information

Source of Material: Unknown

Description of Material: Non-Metallic - Damp Soil

Particle Size: Medium

Preliminary Burning Time (sec): 120

Parameter	Result	Date Analyzed	Analytical Method	Analyst
Ignitability of Solids - Westborough Lab				
Ignitability	NI	08/08/18 01:00	1,1030	SB



Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

SAMPLE RESULTS

Lab ID: L1829545-01

Client ID: SP-1

Sample Location: Not Specified

Date Collected: 07/31/18 12:30

Date Received: 07/31/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	78.2		%	0.100	NA	1	-	08/07/18 08:54	121,2540G	RI
pH (H)	7.0		SU	-	NA	1	-	08/01/18 18:54	1,9045D	AS
Cyanide, Reactive	ND		mg/kg	10	--	1	08/03/18 17:57	08/03/18 19:26	125,7.3	TL
Sulfide, Reactive	ND		mg/kg	10	--	1	08/03/18 17:57	08/03/18 19:08	125,7.3	TL



Project Name: MCCABE ST.

Lab Number: L1829545

Project Number: SE18-1375

Report Date: 08/10/18

Method Blank Analysis

Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1142803-1										
Sulfide, Reactive	ND		mg/kg	10	--	1	08/03/18 17:57	08/03/18 19:03	125,7.3	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1142804-1										
Cyanide, Reactive	ND		mg/kg	10	--	1	08/03/18 17:57	08/03/18 19:22	125,7.3	TL

Lab Control Sample Analysis

Batch Quality Control

Project Name: MCCABE ST.

Project Number: SE18-1375

Lab Number: L1829545

Report Date: 08/10/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1141941-1								
pH	100		-		99-101	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1142803-2								
Sulfide, Reactive	78		-		60-125	-		40
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1142804-2								
Cyanide, Reactive	34		-		30-125	-		40

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Duplicate Analysis
Batch Quality Control

Lab Number: L1829545
Report Date: 08/10/18

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1141941-2 QC Sample: L1829526-01 Client ID: DUP Sample						
pH	7.7	7.7	SU	0		5
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1142803-3 QC Sample: L1829100-01 Client ID: DUP Sample						
Sulfide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1142804-3 QC Sample: L1829100-01 Client ID: DUP Sample						
Cyanide, Reactive	ND	ND	mg/kg	NC		40
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1143594-1 QC Sample: L1829534-01 Client ID: DUP Sample						
Solids, Total	90.2	89.6	%	1		20

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1829545-01A	Vial MeOH preserved	A	NA		3.2	Y	Absent		8260HLW(14)
L1829545-01B	Plastic 2oz unpreserved for TS	A	NA		3.2	Y	Absent		AS-TI(180),CR-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L1829545-01C	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		8270TCL(14),IGNIT-1030(14),REACTS(14),PCB-8082(14),TS(7),PH-9045(1),REACTCN(14),TPH-DRO-D(14)

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1829545
Report Date: 08/10/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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

Report Format: Data Usability Report



Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1829545
Report Date: 08/10/18

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: MCCABE ST.**Lab Number:** L1829545**Project Number:** SE18-1375**Report Date:** 08/10/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.
- 125 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates IIIA, April 1998.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

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

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

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

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

Mansfield Facility

SM 2540D: TSS

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

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E,**

SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

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

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

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522.

Non-Potable Water

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

EPA 245.1 Hg.

SM2340B

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

Page 64 of 64



ANALYTICAL REPORT

Lab Number:	L1833665
Client:	Sitec Environmental, Inc. 769 Plain Street Unit C Marshfield, MA 02050
ATTN:	Geoff Souza
Phone:	(781) 319-0100
Project Name:	MCCABE ST.
Project Number:	SE18-1375
Report Date:	08/31/18

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

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



Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1833665
Report Date: 08/31/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1833665-01	SP-1	SOIL	Not Specified	07/31/18 12:30	07/31/18

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1833665
Report Date: 08/31/18

Case Narrative

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

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

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

Authorized Signature:

 Melissa Cripps

Title: Technical Director/Representative

Date: 08/31/18

METALS

Project Name: MCCABE ST.**Lab Number:** L1833665**Project Number:** SE18-1375**Report Date:** 08/31/18**SAMPLE RESULTS**

Lab ID: L1833665-01

Date Collected: 07/31/18 12:30

Client ID: SP-1

Date Received: 07/31/18

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

TCLP/SPLP Ext. Date: 08/28/18 05:24

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Lead, TCLP	2.30		mg/l	0.500	--	1	08/30/18 14:45	08/30/18 18:58	EPA 3015	1,6010D	AB



Project Name: MCCABE ST.

Lab Number: L1833665

Project Number: SE18-1375

Report Date: 08/31/18

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01 Batch: WG1152291-1										
Lead, TCLP	ND		mg/l	0.500	--	1	08/30/18 14:45	08/30/18 18:49	1,6010D	AB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 08/28/18 05:24

Lab Control Sample Analysis
Batch Quality Control**Project Name:** MCCABE ST.**Project Number:** SE18-1375**Lab Number:** L1833665**Report Date:** 08/31/18

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01 Batch: WG1152291-2								
Lead, TCLP	87		-		75-125	-		20

Project Name: MCCABE ST.**Lab Number:** L1833665**Project Number:** SE18-1375**Report Date:** 08/31/18**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L1833665-01A	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		-
L1833665-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.2	Y	Absent		PB-CI(180)
L1833665-01X9	Tumble Vessel	A	NA		3.2	Y	Absent		-

Project Name: MCCABE ST.
Project Number: SE18-1375

Lab Number: L1833665
Report Date: 08/31/18

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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

Report Format: Data Usability Report



Project Name: MCCABE ST.**Lab Number:** L1833665**Project Number:** SE18-1375**Report Date:** 08/31/18**Data Qualifiers**

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: MCCABE ST.**Lab Number:** L1833665**Project Number:** SE18-1375**Report Date:** 08/31/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

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

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

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

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

Mansfield Facility

SM 2540D: TSS

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

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E,**

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SM2340B

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Page 13 of 13



ANALYTICAL REPORT

Lab Number:	L1837354
Client:	Sitec Environmental, Inc. 769 Plain Street Unit C Marshfield, MA 02050
ATTN:	Geoff Souza
Phone:	(781) 319-0100
Project Name:	MCCABE ST
Project Number:	SE18-1375
Report Date:	09/21/18

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508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1837354-01	SP-2	SOIL	Not Specified	09/19/18 07:30	09/19/18

Project Name: MCCABE ST

Lab Number: L1837354

Project Number: SE18-1375

Report Date: 09/21/18

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is 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
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
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
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
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
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
A response to questions G, H and I is 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
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	YES
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

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

Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

Case Narrative (continued)

MCP Related Narratives

Report Submission

All MCP required questions were answered with affirmative responses; therefore, there are no relevant protocol-specific QC and/or performance standard non-conformances to report.

Non-MCP Related Narratives

Petroleum Hydrocarbon Quantitation

L1837354-01: The surrogate recovery is below the acceptance criteria for o-terphenyl (0%) due to the dilution required to quantitate the sample. Re-extraction was not required; therefore, the results of the original analysis are reported.

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

Authorized Signature:

 Melissa Cripps

Title: Technical Director/Representative

Date: 09/21/18

ORGANICS

PETROLEUM HYDROCARBONS

Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

SAMPLE RESULTS

Lab ID: L1837354-01 D
 Client ID: SP-2
 Sample Location: Not Specified

Date Collected: 09/19/18 07:30
 Date Received: 09/19/18
 Field Prep: Not Specified

Sample Depth:
 Matrix: Soil
 Analytical Method: 1,8015D(M)
 Analytical Date: 09/21/18 01:11
 Analyst: SC
 Percent Solids: 83%

Extraction Method: EPA 3546
 Extraction Date: 09/20/18 05:15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Petroleum Hydrocarbon Quantitation - Westborough Lab						
TPH	12500000		ug/kg	3890000	--	100
Surrogate	% Recovery		Qualifier	Acceptance Criteria		
o-Terphenyl	0		Q	40-140		

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Method Blank Analysis Batch Quality Control

Analytical Method: 1,8015D(M)
 Analytical Date: 09/20/18 09:02
 Analyst: SC

Extraction Method: EPA 3546
 Extraction Date: 09/20/18 00:43

Parameter	Result	Qualifier	Units	RL	MDL
Petroleum Hydrocarbon Quantitation - Westborough Lab for sample(s): 01 Batch: WG1158740-1					
TPH	ND		ug/kg	32600	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
o-Terphenyl	72		40-140

Lab Control Sample Analysis

Batch Quality Control

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Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Petroleum Hydrocarbon Quantitation - Westborough Lab Associated sample(s): 01 Batch: WG1158740-2								
TPH	100		-		40-140	-		40

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
o-Terphenyl	84				40-140

INORGANICS & MISCELLANEOUS

Project Name: MCCABE ST

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SAMPLE RESULTS

Lab ID: L1837354-01

Client ID: SP-2

Sample Location: Not Specified

Date Collected: 09/19/18 07:30

Date Received: 09/19/18

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	83.2		%	0.100	NA	1	-	09/20/18 03:50	121,2540G	FN



Project Name: MCCABE ST
Project Number: SE18-1375

Serial_No:09211809:37
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Sample Receipt and Container Information

Were project specific reporting limits specified?

YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type
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L1837354-01A	Glass 250ml/8oz unpreserved
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Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
A	NA		5.1	Y	Absent		TS(7),TPH-DRO-D(14)

Project Name: MCCABE ST
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GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

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

Terms

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

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

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

Report Format: Data Usability Report



Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

Data Qualifiers

- A** - Spectra identified as "Aldol Condensation Product".
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- ND** - Not detected at the reporting limit (RL) for the sample.

Project Name: MCCABE ST
Project Number: SE18-1375

Lab Number: L1837354
Report Date: 09/21/18

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624: m/p-xylene, o-xylene

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

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

EPA 300: DW: Bromide

EPA 6860: SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

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

Mansfield Facility

SM 2540D: TSS

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

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **EPA 351.1, SM4500P-E, SM4500P-B, E,**

SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

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

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

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Be, Cd, Cr, Cu, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.**

EPA 522.

Non-Potable Water

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

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

EPA 245.1 Hg.

SM2340B

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

