O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

J2060-02-01
October 5, 2021

Town of Shutesbury
MN Spear Memorial Library
P.O. Box 276
Shutesbury, Massachusetts 01072

Attn: Ms. Mary Anne Antonellis, Library Director

Re: Limited Subsurface Assessment
66 Leverett Road, Parcel O-32
Shutesbury, Massachusetts

Dear Ms. Antonellis:

On behalf of the Town of Shutesbury, O'Reilly, Talbot & Okun Associates, Inc. (OTO) is pleased to provide the results of our limited subsurface assessment at the above referenced property (the Site). Our assessment was performed in general accordance with our proposal for environmental services to the Town of Shutesbury dated August 30, 2021. This report is subject to the Limitations in Appendix A.

BACKGROUND

The subject Site consists of one 21.2-acre parcel of land owned by the Town of Shutesbury (parcel ID# O-32). It is OTO's understanding that the northern portion of the Site is being considered for the construction of a new town library. Existing groundwater well MW-2D was installed on the property in 2014 by Cushing & Sons, Inc. on behalf of the Town. This well is a bedrock monitoring well drilled to approximately 100 feet below the ground surface (open-borehole) with a 6-inch diameter steel casing sticking up above the ground surface. The Town is assessing whether groundwater from this well might be a suitable future source of drinking water.

The northern portion of the property formerly contained a residence and detached garage building which have been demolished by the Town. The Town also recently removed areas of debris and common trash left on the northern portion of property by others. The southern portion of the Site is wooded with some overgrown trails. The southern portion was historically used by the Air Force for a terminal very high frequency omni-directional range (TVOR) facility, a type of short-range radio navigation system for aircraft.

For OTO's review, the Town of Shutesbury provided copies of an *Updated Environmental Transaction Screen* by Fuss & O'Neill, dated December 29, 2010, a prior *Environmental Transaction Screen by* Fuss & O'Neill, dated July 14, 2010, a *Release Retraction Documentation* letter for Release Tracking Number (RTN) 1-

18707 prepared by Cold Spring Environmental Consultants, Inc, dated May 30, 2012, and monitoring well completion reports from 2014 by Cushing & Sons, Inc. There is no mention of the former TVOR facility in the documents provided to OTO.

Based on limited information available on the U.S. Army Corps of Engineers website[1], the former TVOR facility was known as the Westover Remote Site under the federal Formerly Used Defense Sites (FUDS) Program. The United States leased the Site along with leaseholds/purchase on other surrounding land in 1957. The Air Force constructed a circular concrete TVOR pad with tower and an Emergency Power Unit Shelter (4'x8') at the site and an associated underground fuel storage tank. Thirty-five wooden posts in a 100-foot radius around the TVOR pad were constructed to be used in conjunction with the TVOR facility to affect the transmission. The Air Force used the site until 1967; the leaseholds apparently were not extended beyond June 1967. In 1992, the Department of Defense Installation Restoration Program (IRP) recommended to remove one 275-gallon underground storage tank (UST), contents, piping and any contaminated soil. Soil sampling throughout the site was also recommended. By August 1995, it appears that approximately 100 tons of hydrocarbon contaminated soil was removed, and test pits were conducted. It is unknown whether the UST was removed from the property.

The MassDEP on-line Phase I Site Assessment Map of the vicinity is in Appendix B. A wetland area and hydraulic divide is mapped at the Site. Zone A surface water buffer areas are mapped to the east and south of the Site. The Site is more than 500 feet from a public water supply line. Therefore, for the purposes of groundwater and soil classification under the Massachusetts Contingency Plan, groundwater is classified as RCGW-1 and soil is classified as RCS-1.

SITE VISIT

On September 8, 2021, OTO walked the Site with the Shutesbury Town Manager and Library Director to select and pre-mark soil boring locations (B-1 through B-10) based on the following rational and former Site features:

- B-1: former garage area;
- B-2: outside storage area behind former garage ;
- B-3: down-gradient of former garage and former garage UST;
- B-4: proposed footprint of new library building;
- B-5: proposed footprint of new library building;
- B-6: proposed area for a new septic system leach field;
- B-7: area of removed debris;
- B-8: area of removed debris;
- B-9: concrete pad for an unknown abandoned utility/feature;
- B-10: area of removed debris and removed abandoned car.

[1] https://fudsportal.usace.army.mil/ems/ems/inventory/map/map?id=59569

SOIL ASSESSMENT

On September 16, 2021, Martin Geo/Environmental, LLC and OTO performed ten soil borings (B-1 through B-10) at the locations shown on the attached Figures with a direct-push drill rig. OTO logged the borings, field screened soil samples with a photo-ionization detector (PID) and retained soil samples for laboratory analysis. Soil descriptions and field data is summarized within the boring logs in Appendix C.

Soil samples were selected for laboratory analysis based on the location, depth, and field observations considering conceptual models for a release of oil or hazardous material to the environment. Samples were analyzed for volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), volatile and extractable petroleum hydrocarbons (VPH/EPH) by Con-Test, a Pace Analytical Laboratory, in East Longmeadow, Massachusetts. Laboratory analytical reports are attached in Appendix D.

No constituents of concern were detected above laboratory method reporting limits in soil samples analyzed from borings B-1 through B-8, and B-10. VPH was detected in a soil sample collected from 8 to 10 feet below the ground surface at boring B-9, which was adjacent to a concrete pad. The B-9 detections are summarized on Table 1 and compared against the reportable concentrations listed under 310 CMR 40.1600 of the Massachusetts Contingency Plan (MCP). As indicated the C5-C8 aliphatic hydrocarbon concentration of 100 mg/Kg is equal to the reportable concentration for RCS-1 classified soil.

GROUNDWATER SAMPLING AND ANALYSIS

On September 8, 2021, OTO collected a groundwater sample from monitoring well MW-2D. Groundwater was measured approximately 8 feet below the ground surface. Purging and sampling was performed using high-density polyethylene tubing connected to a down well pump. The sample was preserved in laboratory provided glassware and submitted to Con-Test. Con-Test analyzed the sample for VOCs, per- and polyfluoroalkyl substances (PFAS), PCBs, total coliform bacteria, pH, color, turbidity, hardness, iron, manganese, sodium, nitrate and nitrite. The laboratory analytical report is included in Appendix D. A sampling record is in Appendix E.

As indicated in the laboratory report, no VOCs, PFAS or PCBs were detected in the groundwater sample from MW-2D. The groundwater sample was turbid with low levels of total coliform bacteria, iron, and manganese detected in the sample.

OPINIONS AND CONCLUSION

No constituents of concern were detected in soil samples analyzed from borings B-1 through B-8 in the vicinity of the proposed library project.

Pursuant to 310 CMR 40.0315(3), the concentration of C5-C8 aliphatic hydrocarbons detected in soil at boring B-9 is a condition which requires release notification to MassDEP. The hydrocarbon profile detected is consistent with impacts frequently associated with releases of gasoline. Under the MCP at 310 CMR 40.0315, persons required to notify under 310 CMR 40.0331 shall inform MassDEP within 120 days after obtaining knowledge of a release to the environment indicated by the measurement of oil in soil in an amount equal to or greater than the applicable Reportable Concentration listed at 310 CMR 40.1600. We recommend providing notice to MassDEP on or before January 28, 2022, based on the date of receipt of the laboratory report. Further assessment is warranted to evaluate the source, nature, and extent of the release detected at boring B-9.

No VOCs, PFAS or PCBs were detected in the groundwater sample from well MW-2D. Due to the low levels of total coliform bacteria, iron, turbidity, and manganese detected in the sample, further well development and/or treatment would be necessary for groundwater from this well to be suitable for drinking. We recommend contacting a company that specializes in drinking water supply well installation, maintenance, and compliance.

We appreciate the opportunity to assist you on this project. Please contact us if you have any questions.

Sincerely,
O'Reilly, Talbot & Okun Associates, Inc.

Erica L. Escobar
Staff Scientist

Mark E. O'Malley
Project Manager

Sabrina A. Moreau
Project Manager, reviewer

Attachments:

FIGURES

Table 1	Soil Analytical Results
Table 2	Groundwater Analytical Results

FIGURES

Figure 1	Site Locus
Figure 2	Site Plan
Figure 3	Site Detail Plan

APPENDICES

Appendix A	Limitations
Appendix B	Phase I Site Assessment Map
Appendix C	Boring Logs
Appendix D	Laboratory Analytical Report
Appendix E	Groundwater Sampling Record

O:\J2000\2060 Town of Shutesbury\02-01 Library Project\Report 66 Leverett

TABLES

Table 1
Soil Analytical Results
Volatile Petroleum Hydrocarbons (VPH)
Concentrations in mg/kg
66 Leverett Road
Shutesbury, Massachusetts

Sample No.:	**B-9**	**Reportable Conc. RCS-1**
Depth (feet):	8-10'	
Date Collected:	9/16/21	
PID Reading (ppmv):	780	NA
VPH Fractions		
C5-C8 Aliphatics	**100**	100
C9-C12 Aliphatics	89	1,000
C9-C10 Aromatics	66	100
VPH Target Compounds		
Benzene	0.3	2
Ethylbenzene	0.18	40
Methyl tert-butyl ether	<0.085	0.1
Naphthalene	0.54	4
Toluene	<0.085	30
Xylenes (total)	0.48	100
VOCs by 8260		
n-Butylbenzene	1.2	NS
sec-Butylbenzene	0.28	NS
Isopropylbenzene	0.25	1,000
n-Propylbenzene	1.6	100
1,2,4-Trimethylbenzene	2.1	1,000
1,3,5-Trimethylbenzene	3.2	10

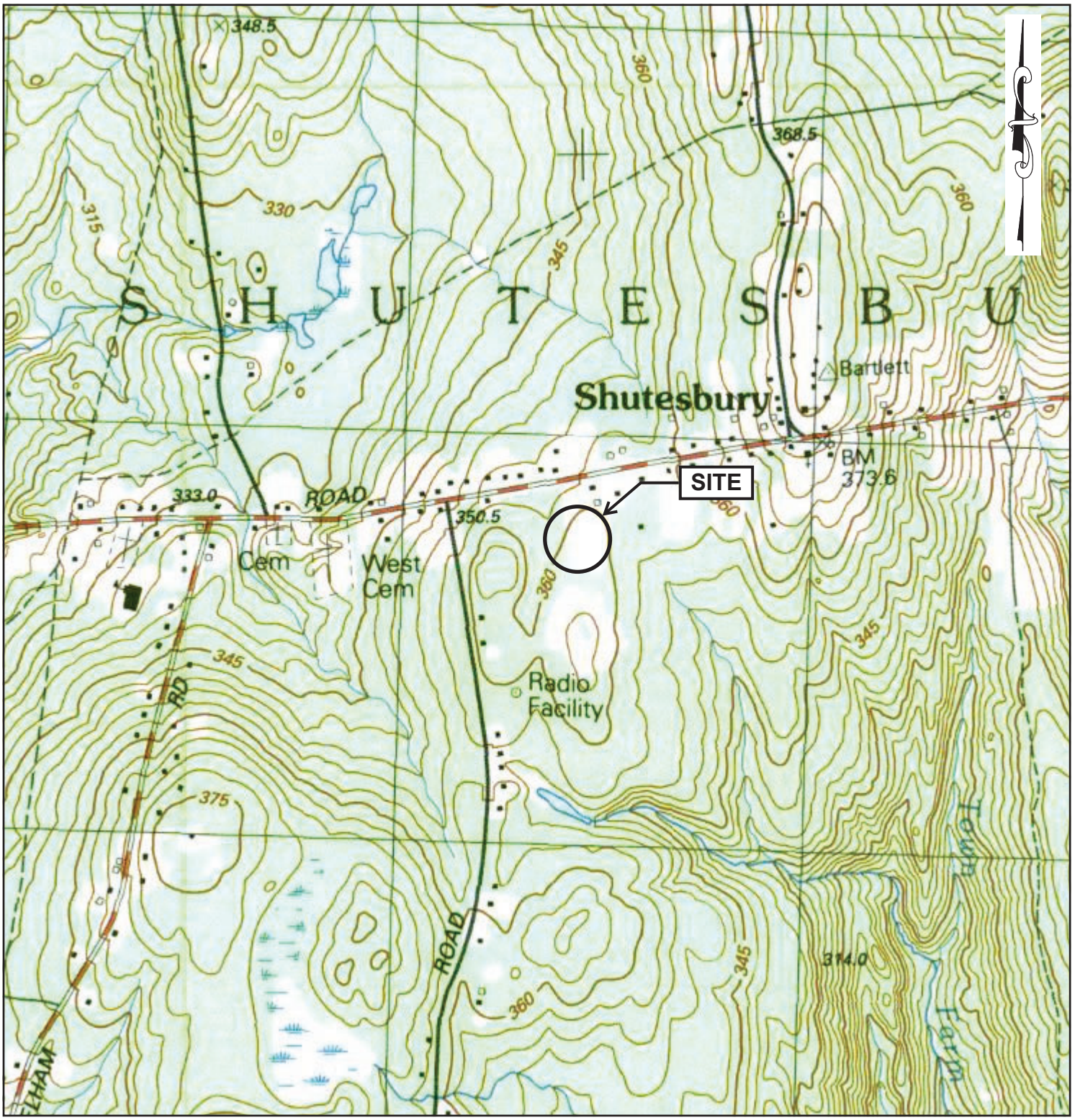
NOTES:
1. Concentrations in mg/kg (parts per million) on a dry weight basis.
2. "<" indicates not detected; value is sample-specific quantitation limit.
3. "RCS" = Reportable concentration from 310 CMR 40.1600.
4. "PID"=Photoionization detector soil headspace measurement in
5. Only analytes detected in at least one sample are shown; refer to laboratory reports for full analyte listing.
6. Values shown in **bold** are equal to or exceed Reportable Concentrations.

Table 2
Summary of Groundwater Analytical Results
66 Leverett Road
Shutesbury, MA

Sampling Location	**MW-2D**	**MCL/SMCL MA**
Sample Date:	**9/8/21**	**ORSG**
VOCs EPA 524.2 (ug/L)	Not Detected	--
PCBs SW-846 8082S (ug/L)	Not Detected	--
PFAS EPA 537.1 (ng/L)	Not Detected	--
SW-846 610D (mg/L) Metals Digestion		
Iron	**6.3**	0.3
Manganese	**0.11**	0.05
Sodium	5.6	20
Hardness	20	--
EPA 300.0 (mg/L)		
Chloride	1.2	250
Nitrate	ND (0.10)	10
Nitrite	ND (0.10)	1
SM 92238B - Colilert (MPN/100mL)		
Total Coliform	**3.1**	Absent
E. Coli	ND (1.0)	
EPA 180.1 (NTU)		
Turbidity	39	--
SM21-23 2120B (Color Units)		
Apparent Color	**75**	15
SM21-23 4500 H B (pH Units)		
pH	6.9	8.5

NOTES:
1. "ND" indicates not detected; value is quantitation limit.
2. "--" indicates no published value, compound specific or not applicable.
3. MCL/SMCL = Massachusetts Maximum Contaminant Level/Secondary Maximum Contamina
4. MA ORSG = Massachusetts Department of Environmental Protection Office of Research an Standards (ORS) Guidelines. Updated in January 2020. For reference only.
5. Values shown in **bold** exceed the MCL/SMCL or ORSG.

FIGURES



SCALE IN MILES
1" = 0.1 MILES

0.1 0 0.2

FILE

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES
293 Bridge Street, Suite 500 Springfield, MA 01103 413.788.6222
www.OTO-ENV.com

66 LEVERETT ROAD

SHUTESBURY, MASSACHUSETTS

SITE LOCUS

Topographic Map Quadrant: SHUTESBURY, MA

Map Version: 2001

Current As Of: 2021

Date: SEPTEMBER 2021

PROJECT No.
J2060-02-01

FIGURE No.
1

FILE

66 LEVERETT ROAD
SHUTESBURY, MASSACHUSETTS

SITE PLAN

PROJECT NO. J2060-02-01

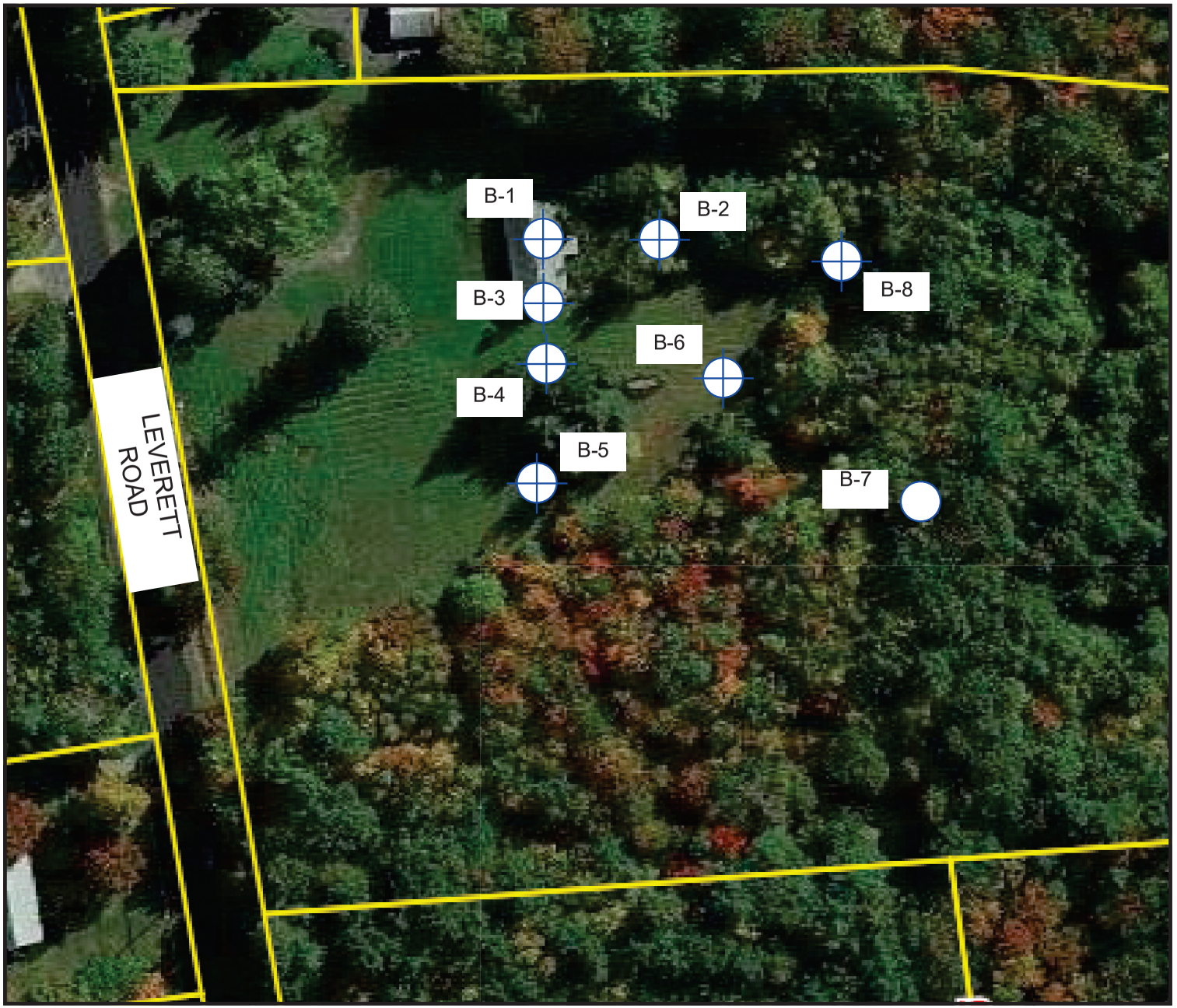
FIGURE NO. 2

All features are approximate.

Designed By: ELE
Drawn By: ELE
Checked By: MEO
Date: 09/27/2021
Source :https://www.mainstreetmaps.com/ma/shutesbury/public.asp

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES
293 Bridge Street, Suite 500 Springfield, MA 01103 413.788.6222
www.OTO-ENV.com

FILE



APPROXIMATE
SCALE IN FEET
1" = 80'

40' 0' 80'

FIGURE No. 3

PROJECT No. J2060-02-01

66 LEVERTT ROAD
SHUTESBURY, MASSACHUSETTS

SITE DETAIL PLAN

DESIGNED BY: ELE
DRAWN BY: ELE
CHECKED BY: MEO
DATE: 9/27/2021
REV. DATE:

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES
293 Bridge Street, Suite 500 Springfield, MA 01103 413.788.6222
www.OTO-ENV.com

APPENDIX A

LIMITATIONS

1. Our report does not present scientific certainties, but rather our professional opinions on the data obtained through our assessment. Our report was prepared for the exclusive benefit of our client and its mortgage lender. Reliance upon the report and its conclusions is not made to third parties or future property owners. We would be pleased to discuss extension of reliance to third parties through execution of a written contract with such parties.
2. The observations presented in this report were made under the conditions described herein. The conclusions presented in this report were based solely upon the services described in the report and not on scientific tasks or procedures beyond the scope of the project or the time and budgetary constraints imposed by the client. The work described in this report was carried out in accordance with the contract Terms and Conditions.
3. In preparing the report, O'Reilly, Talbot, Okun & Associates, Inc. relied on certain information provided by state and local officials and other parties referenced herein, and on information contained in prior site reports. Although there may have been some degree of overlap in the information provided by these sources, O'Reilly, Talbot, Okun & Associates, Inc. did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this assessment.
4. Observations were made of the site and of the structures on the site, as indicated within the report. Where access to portions of the site or to structures on the site was unavailable or limited, we render no opinion as to the presence of hazardous materials or oil, or to the presence of indirect information relating to hazardous materials or oil in that portion of the site. In addition, we render no opinion as to the presence of hazardous materials or oil, where direct observations of portions of the site were obstructed by objects or coverings on or over these surfaces.
5. Unless otherwise specified in the Report, we did not perform testing or analyses to determine the presence or concentration of asbestos at the site or in the environment at the site.
6. The purpose of this Report was to assess the physical characteristics of the subject site with respect to the presence of hazardous material or oil in soil or groundwater at the site. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.

APPENDIX B

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

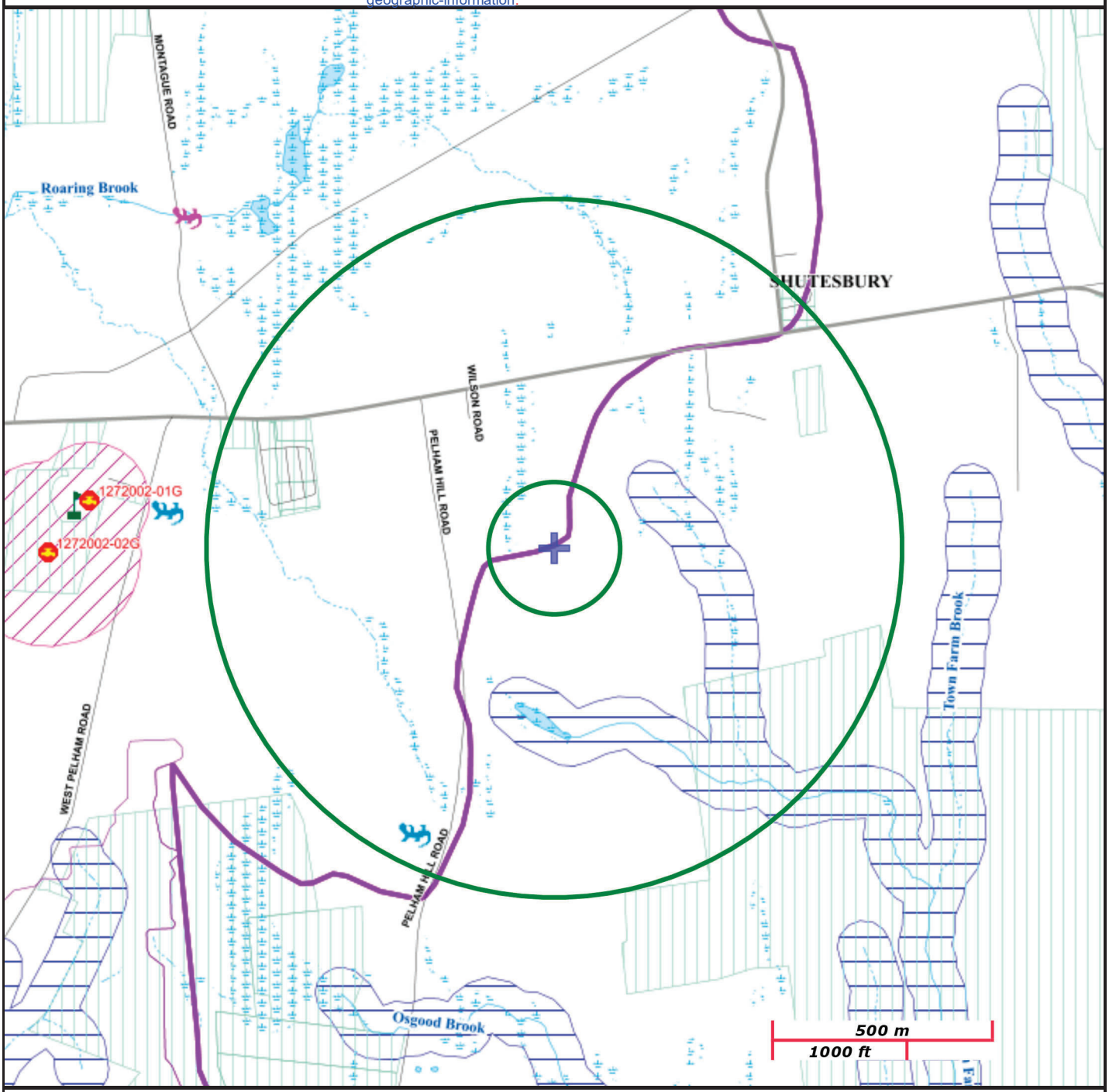
Site Information:

SHUTESBURY, MA

NAD83 UTM Meters:
4702718mN , 712465mE (Zone: 18)
September 29, 2021

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: https://www.mass.gov/orgs/massgis-bureau-of-geographic-information.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

APPENDIX C

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

BORING LOGS

SUMMARY OF THE BURMISTER SOIL CLASSIFICATION SYSTEM (MODIFIED)

RELATIVE DENSITY (of non-plastic soils) OR CONSISTENCY (of plastic soils)

STANDARD PENETRATION TEST (SPT)
Method: Samples were collected in accordance with ASTM D1586, using a 2" diameter split spoon sampler driven 24 inches. If samples were collected using direct push methodology (Geoprobe), SPTs were not performed and relative density/consistency were not reported. N-Value: The number of blows with a 140 lb. hammer required to drive the sampler the middle 12 inches. WOR: Weight Of Rod (depth dependent) WOH: Weight Of Hammer (140 lbs.)

COHESIONLESS SOILS		COHESIVE SOILS	
BLOWS/FOOT (SPT N-Value)	RELATIVE DENSITY	BLOWS/FOOT (SPT N-Value)	CONSISTENCY
0-4	Very loose	<2	Very soft
4-10	Loose	2-4	Soft
10-30	Medium dense	4-8	Medium Stiff
30-50	Dense	8-15	Stiff
>50	Very dense	15-30	Very stiff
*Based upon uncorrected field N-values		>30	Hard

MATERIAL: (major constituent identified in CAPITAL letters)

COHESIONLESS SOILS		
MATERIAL	FRACTION	GRAIN SIZE RANGE
GRAVEL	Coarse	3/4" to 3"
	Fine	1/4" to 3/4"
SAND	Coarse	1/16" to 1/4"
	Medium	1/64" to 1/16"
	Fine	Finest visible & distinguishable particles
SILT/CLAY	see adjacent table	Cannot distinguish individual particles
COBBLES	3" to 6" in diameter	
BOULDERS	> 6" in diameter	
Note: Boulders and cobbles are observed in test pits and/or auger cuttings.		

COHESIVE SOILS		
SMALLEST DIAMETER	PLASTICITY	IDENTITY
None	Non-plastic	**SILT**
1/4" (pencil)	Slight	**Clayey SILT**
1/8"	Low	**SILT & CLAY**
1/16"	Medium	**CLAY & SILT**
1/32"	High	**Silty CLAY**
1/64"	Very High	**CLAY**
Wetted sample is rolled in hands to smallest possible diameter before breaking.		

ORGANIC SILT: Typically gray to dark gray, often has strong H2S odor. May contain shells or shell fragments. Light weight.

Fibrous PEAT: Light weight, spongy, mostly visible organic matter, water squeezed readily from sample. Typically near top of layer.

Fine grained PEAT: Light weight, spongy, little visible organic matter, water squeezed from sample. Typically below fibrous peat.

DEBRIS: Detailed contents described in parentheses (wood, glass, ash, crushed brick, metal, etc.)

BEDROCK: Underlying rock beneath loose soil, can be weathered (easily crushed) or competent (difficult to crush).

ADDITIONAL CONSTITUENTS

TERM	% OF TOTAL
and	35-50%
some	20-35%
little	10-20%
trace	1-10%

COMMON TERMS

Glacial till: Very dense/hard, heterogeneous mixture of sand, silt, clay, sub-angular gravel. Deposited at base of glaciers, which covered all of New England.

Varved clay: Fine-grained, post-glacial lake sediments characterized by alternating layers (or varves) of silt, sand and clay.

Fill: Material used to raise ground, can be engineered or non-engineered.

COMMON FIELD MEASUREMENTS

Torvane: Undrained shear strength is estimated using an E285 Pocket Torvane (TV). Values in tons/ft2.

Penetrometer: Unconfined compressive strength is estimated using a Pocket Penetrometer (PP). Values in tons/ft2.

RQD: Rock Quality Designation is determined by measuring total length of pieces of core 4" or greater and dividing by the total length of the run, expressed as %. 100-90% excellent; 90-75% good; 75-50% fair; 50-25% poor; 25-0% very poor.

PID: Soil screened for volatile organic compounds (VOCs) using a photoionization detector (PID) referenced to benzene in air. Readings in parts per million by volume.

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-1

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Former Garage	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		45/60	S-1 0-1	0.1	Top 6" Dark brown, MEDIUM to COARSE SAND, some gravel, moist Next 6" Brown, FINE to MEDIUM SAND, some coarse sand, moist Bottom 33" Gray, FINE SAND, some clayand gravel, moist		
			S-2 1-3	0.0			
			S-3 3-5	0.0			
5'							
		60/60	S-4 5-7		Top 20" Brown, MEDIUM to COARSE SAND, wet Bottom 40" Gray, FINE SAND, some clay and gravel, wet		
			S-5 8-10				
10'					End of Exploration at 10'		
15'							
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-1

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-2

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Rear of garage, outside storage of drums and Misc. items	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		40/60	S-1 0-1	0.0	Top 3" Dark brown, FINE to MEDIUM SAND, some gravel, moist Bottom 27" Light brown/gray, FINE SAND, some clay and silt, moist Bottom 33" Gray, FINE SAND, some clay and gravel, moist		
			S-2 1-3	0.0			
			S-3 3-5	0.0			
5'							
		60/60	S-4 5-7	0.1	Light brown, FINE SAND, some clay and silt, wet		
			S-5 8-10	0.1			
10'							
		60/60	S-6 10-12	0.3	Light brown, FINE SAND, some clay and silt, wet		
			S-7 13-15	0.1			
15'							
					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-2

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-3

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Former gasoline UST	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		40/60	S-1 0-1	1.1	Top 5" Dark brown, COARSE SAND, trace gravel, moist Bottom 35" Light brown/gray, FINE SAND, trace gravel, moist		
			S-2 1-3	0.0			
			S-3 3-5	0.0			
5'							
		40/60	S-4 5-7	0.1	Top 6" Brown, COARSE SAND and GRAVEL, wet Bottom 34" Light gray, FINE SAND, wet		
			S-5 8-10	0.0			
10'							
					End of Exploration at 10'		
15'							
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-3

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-4

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Proposed new Library	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		50/60	S-1 0-1	0.6	Top 10" Dark brown, FINE to MEDIUM SAND, some organic, moist Bottom 40" Light brown, FINE SAND, moist		
			S-2 1-3	0.0			
			S-3 3-5	0.0			
5'							
		60/60	S-4 5-7	0.1	Top 10" Light brown, MEDIUM to COARSE SAND, moist Bottom 60" Light brown, FINE SAND, some clay, wet		
			S-5 8-10	0.1			
10'							
		40/60	S-6 10-12	0.1	Top 20" Light brown, MEDIUM to COARSE SAND, wet Bottom 20" Light brown/gray, FINE SAND, some clay and silt, wet		
			S-7 13-15	0.1			
15'							
					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-4

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-5

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Proposed new Library	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		45/60	S-1 0-1	4.7	Top 7" Brown, ORGANICS, moist Next 5" Brown, MEDIUM SAND, moist Bottom 33" Brown/Light gray, FINE to COARSE SAND, moist		
			S-2 1-3	0.3			
			S-3 3-5	0.5			
5'		60/60	S-4 5-7	0.0	Top 20" Brown/Light gray, FINE to COARSE SAND, wet Bottom 40" Light gray, FINE SAND, some clay and silt, wet		
			S-5 8-10	0.0			
10'		30/60	S-6 10-12	0.0	Light gray, FINE SAND, some clay and silt, wet		
			S-7 13-15	0.0			
15'					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-5

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-6

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Proposed new leach field	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		45/60	S-1 0-1	0.0	Top 10" Brown, ORGANICS, moist Next 8" Brown, FINE to COARSE SAND, little silt, moist Bottom 27" Gray, MEDIUM to COARSE SAND, some clay and silt, wet		
			S-2 1-3	0.0			
			S-3 3-5	0.0			
5'							
		60/60	S-4 5-7	0.0	Top 10" Gray/brown, FINE to MEDIUM SAND, wet Bottom 50" Gray, FINE to MEDIUM SAND, some silt and clay, wet		
			S-5 8-10	0.0			
10'							
		60/60	S-6 10-12	0.0	Gray, FINE to MEDIUM SAND, some silt and clay, wet		
			S-7 13-15	0.0			
15'							
					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-6

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-7

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Former trash dump	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		40/60	S-1 0-1	6.8	Top 3" Brown, ORGANICS, moist Next 4" Brown, FINE to MEDIUM SAND, moist Bottom 33" Light brown/gray, FINE to COARSE SAND, wet		
			S-2 1-3	0.4			
			S-3 3-5	0.1			
5'							
		60/60	S-4 5-7	0.1	Top 15" Light brown/gray, FINE to COARSE SAND, wet Bottom 45" Light brown/gray, FINE to COARSE SAND, some clay and silt, wet		
			S-5 8-10	0.1			
10'							
		60/60	S-6 10-12	0.1	Top 20" Light Brown/gray, FINE to MEDIUM SAND, wet Bottom 40" Light brown/gray, FINE to COARSE SAND, some clay and silt, wet		
			S-7 13-15	0.1			
15'							
					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-7

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-8

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Former trash dump	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		45/60	S-1 0-1	0.8	Top 15" Dark brown, MEDIUM SAND, some organics, moist Next 5" Brown, MEDIUM to COARSE SAND, moist Bottom 25" Light gray, FINE SAND, some silt and clay, moist		
			S-2 1-3	0.7			
			S-3 3-5	0.4			
5'		55/60	S-4 5-7	0.0	Light gray, FINE SAND, some silt and clay, moist, wet		
			S-5 8-10	0.0			
10'		50/60	S-6 10-12	0.0	Light gray, FINE SAND, some silt and clay, wet		
			S-7 13-15	0.0			
15'					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-8

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-9

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Former transformer pad	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		30/60	S-1 0-1	20.0	Top 3" Brown, MEDIUM to COARSE SAND, some gravel, trace organics, moist Bottom 27" Brown, FINE SAND, some clay and silt, moist		
			S-2 1-3	0.5			
			S-3 3-5	0.2			
5'		35/60	S-4 5-7	0.2	Brown, FINE SAND, some clay and silt		
			S-5 8-10	780			
10'		40/60	S-6 10-12	616	Brown, FINE SAND, some clay and silt, wet		
			S-7 13-15	247			
15'		60/60	S-8 15-17	2.4	Brown, FINE SAND, some clay and silt, wet		
			S-9 18-20	2.0			
20'					End of Exploration at 20'		
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-9

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING B-10

PROJECT	77 Leverett			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	2060-02-01	FINAL DEPTH (ft)		DRILLING EQUIPMENT	B-48 Track Mounted Rig		
LOCATION	Shutebury, MA	SURFACE ELEV (ft)		FOREMAN	Phil	CASING	
START DATE	9/16/2021	DISTURBED SAMPLES		HELPER	Adam	CASE DIAMETER	N/A
FINISH DATE	9/16/2021	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Erica Escobar	WATER LEVEL		ROD TYPE	None	HAMMER DROP	N/A
BORING LOCATION	Area where car was abandoned	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	None	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP	N/A	SIZE	N/A

DEPTH (ft)/ SAMPLES	SAMPLES: PENETR. RESIST. (bl / 6 in)	SAMPLES: REC. (in)	SAMPLES: TYPE/ NO.	SAMPLES: FIELD TEST DATA	SAMPLE DESCRIPTION (MODIFIED BURMISTER)	PROFILE DEPTH (ft) ELEV.	REMARKS/ WELL CONSTRUCTION
		40/60	S-1 0-1	7.8	Top 10" ORGANICS Next 6" Brown/orange, FINE to MEDIUM SAND, some silt, moist Bottom 24" Light brown, FINE to MEDIUM SAND, some silt, wet		
			S-2 1-3	9.3			
			S-3 3-5	0.3			
5'							
		35/60	S-4 5-7	0.5	Light brown, FINE to MEDIUM SAND, some silt, trace boulders, wet		
			S-5 8-10	0.2			
10'							
		50/60	S-6 10-12	0.1	Top 10" Light brown/gray, MEDIUM to COARSE SAND, wet Bottom 40" Brown, FINE to MEDIUM SAND, some silt and clay, wet		
			S-7 13-15	0.2			
15'							
					End of Exploration at 15'		
20'							
25'							

Remarks:

PROJECT NO. 2060-02-01

LOG OF BORING B-10

APPENDIX D

con-test®
A Pace Analytical® Laboratory

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

September 23, 2021

Mark O'Malley
OTO Associates
293 Bridge St. Suite 500
Springfield, MA 01103

Project Location: Shutesbury, MA
Client Job Number:
Project Number: 2060-02-01
Laboratory Work Order Number: 21I0921

Enclosed are results of analyses for samples received by the laboratory on September 17, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

Table of Contents

Table of Contents (continued)

con-test®
A Pace Analytical® Laboratory

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

OTO Associates
293 Bridge St. Suite 500
Springfield, MA 01103
ATTN: Mark O'Malley

REPORT DATE: 9/23/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2060-02-01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21I0921

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

PROJECT LOCATION: Shutesbury, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
B-1 (5-7)	21I0921-01	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
				SW-846 8260C-D	
B-2 (1-3)	21I0921-02	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
B-3 (5-7)	21I0921-03	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
				SW-846 8260C-D	
B-4 (3-5)	21I0921-04	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
B-5 (5-7)	21I0921-05	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
				SW-846 8260C-D	
B-6 (3-5)	21I0921-06	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
B-7 (0-1)	21I0921-07	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
B-8 (1-3)	21I0921-08	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
B-9 (0-1)	21I0921-09	Soil		SM 2540G	
				SW-846 8082A	
B-9 (8-10)	21I0921-10	Soil		MADEP-VPH-Feb 2018 Rev 2.1	
				SM 2540G	
				SW-846 8082A	
				SW-846 8260C-D	
B-10 (1-3)	21I0921-11	Soil		MADEP EPH rev 2.1	
				SM 2540G	
				SW-846 8082A	
				SW-846 8260C-D	

con-test®
A Pace Analytical® Laboratory

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

CASE NARRATIVE SUMMARY

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

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

MADEP-VPH-Feb 2018 Rev 2.1

Qualifications:

O-01

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

Analyte & Samples(s) Qualified:

21I0921-10[B-9 (8-10)]

S-15

Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.

Analyte & Samples(s) Qualified:

21I0921-10[B-9 (8-10)]

SW-846 8082A

Qualifications:

O-32

A dilution was performed as part of the standard analytical procedure.

Analyte & Samples(s) Qualified:

21I0921-01[B-1 (5-7)], 21I0921-02[B-2 (1-3)], 21I0921-03[B-3 (5-7)], 21I0921-04[B-4 (3-5)], 21I0921-05[B-5 (5-7)], 21I0921-06[B-6 (3-5)], 21I0921-07[B-7 (0-1)], 21I0921-08[B-8 (1-3)], 21I0921-09[B-9 (0-1)], 21I0921-10[B-9 (8-10)], 21I0921-11[B-10 (1-3)]

SW-846 8260C-D

Qualifications:

L-07

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

Analyte & Samples(s) Qualified:

Chloroethane
B290528-BS1

RL-05

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

Analyte & Samples(s) Qualified:

21I0921-10[B-9 (8-10)]

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Dichlorodifluoromethane (Freon 12
21I0921-01[B-1 (5-7)], 21I0921-03[B-3 (5-7)], 21I0921-05[B-5 (5-7)], 21I0921-11[B-10 (1-3)], B290543-BLK1, B290543-BS1, B290543-BSD1, S063414-CCV1

V-16

Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.

Analyte & Samples(s) Qualified:

1,4-Dioxane
S063414-CCV1, S063445-CCV1

Tetrahydrofuran
S063414-CCV1

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

V-20

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

Analyte & Samples(s) Qualified:

Bromoform

B290528-BS1, B290528-BSD1, B290543-BS1, B290543-BSD1, S063414-CCV1, S063445-CCV1

Chloroethane

B290528-BS1, B290528-BSD1, S063445-CCV1

Dichlorodifluoromethane (Freon 12

B290528-BS1, B290528-BSD1, S063445-CCV1

Hexachlorobutadiene

B290543-BS1, B290543-BSD1, S063414-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane

21I0921-10[B-9 (8-10)], B290528-BLK1, B290528-BS1, B290528-BSD1, S063445-CCV1

MADEP-VPH-Feb 2018 Rev 2.1

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

Analytical column used for VPH analysis is Restek, Rtx-502.2, 105meter, 0.53mmID, 3um df. Trap used for VPH analysis is Carbopack B/CarboSieveS-III.

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-1 (5-7) | Sampled: 9/16/2021 08:30

Sample ID: 21I0921-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Benzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Bromobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Bromochloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Bromodichloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Bromoform	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Bromomethane	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
2-Butanone (MEK)	ND	0.023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
n-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
sec-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
tert-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Carbon Disulfide	ND	0.0034	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Carbon Tetrachloride	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Chlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Chlorodibromomethane	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Chloroethane	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Chloroform	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Chloromethane	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
2-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
4-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2-Dibromoethane (EDB)	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Dibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,3-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,4-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0057	mg/Kg dry	1	V-05	SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1-Dichloroethylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
cis-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
trans-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,3-Dichloropropane	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
2,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
cis-1,3-Dichloropropene	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
trans-1,3-Dichloropropene	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Diethyl Ether	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Diisopropyl Ether (DIPE)	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,4-Dioxane	ND	0.057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Ethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-1 (5-7) | Sampled: 9/16/2021 08:30

Sample ID: 21I0921-01

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
2-Hexanone (MBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Isopropylbenzene (Cumene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Methylene Chloride	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Naphthalene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
n-Propylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Styrene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1,1,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1,2,2-Tetrachloroethane	ND	0.00057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Tetrachloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Tetrahydrofuran	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Toluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2,3-Trichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2,4-Trichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1,1-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,1,2-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Trichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2,3-Trichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,2,4-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
1,3,5-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
Vinyl Chloride	ND	0.0057	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
m+p Xylene	ND	0.0023	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF
o-Xylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:02	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	96.2	70-130		9/20/21 10:02
Toluene-d8	98.4	70-130		9/20/21 10:02
4-Bromofluorobenzene	94.6	70-130		9/20/21 10:02

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-1 (5-7) | Sampled: 9/16/2021 08:30

Sample ID: 21I0921-01

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1221 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1232 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1242 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1248 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1254 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1260 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1262 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG
Aroclor-1268 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 10:52	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	97.9	30-150		9/22/21 10:52
Decachlorobiphenyl [2]	89.9	30-150		9/22/21 10:52
Tetrachloro-m-xylene [1]	82.0	30-150		9/22/21 10:52
Tetrachloro-m-xylene [2]	83.4	30-150		9/22/21 10:52

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-1 (5-7) | Sampled: 9/16/2021 08:30

Sample ID: 21I0921-01

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 14:40	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	69.6	40-140		9/22/21 14:40
o-Terphenyl (OTP)	67.3	40-140		9/22/21 14:40
2-Bromonaphthalene	80.7	40-140		9/22/21 14:40
2-Fluorobiphenyl	79.5	40-140		9/22/21 14:40

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-1 (5-7) | Sampled: 9/16/2021 08:30

Sample ID: 21I0921-01

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.4		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-2 (1-3) | Sampled: 9/16/2021 09:00

Sample ID: 21I0921-02

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1221 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1232 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1242 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1248 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1254 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1260 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1262 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG
Aroclor-1268 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:09	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	96.4	30-150		9/22/21 11:09
Decachlorobiphenyl [2]	88.9	30-150		9/22/21 11:09
Tetrachloro-m-xylene [1]	81.6	30-150		9/22/21 11:09
Tetrachloro-m-xylene [2]	83.0	30-150		9/22/21 11:09

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-2 (1-3) | Sampled: 9/16/2021 09:00

Sample ID: 21I0921-02

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:07	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	59.6	40-140		9/22/21 11:07
o-Terphenyl (OTP)	56.6	40-140		9/22/21 11:07
2-Bromonaphthalene	80.0	40-140		9/22/21 11:07
2-Fluorobiphenyl	81.5	40-140		9/22/21 11:07

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-2 (1-3) | Sampled: 9/16/2021 09:00

Sample ID: 21I0921-02

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.7		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-3 (5-7) | Sampled: 9/16/2021 09:30

Sample ID: 21I0921-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Benzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Bromobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Bromochloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Bromodichloromethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Bromoform	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Bromomethane	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
2-Butanone (MEK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
n-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
sec-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
tert-Butylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Carbon Disulfide	ND	0.0032	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Carbon Tetrachloride	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Chlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Chlorodibromomethane	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Chloroethane	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Chloroform	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Chloromethane	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
2-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
4-Chlorotoluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2-Dibromoethane (EDB)	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Dibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,3-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,4-Dichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.0053	mg/Kg dry	1	V-05	SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2-Dichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
cis-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
trans-1,2-Dichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,3-Dichloropropane	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
2,2-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
cis-1,3-Dichloropropene	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
trans-1,3-Dichloropropene	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Diethyl Ether	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Diisopropyl Ether (DIPE)	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,4-Dioxane	ND	0.053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Ethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-3 (5-7) | Sampled: 9/16/2021 09:30

Sample ID: 21I0921-03

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
2-Hexanone (MBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Isopropylbenzene (Cumene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Methylene Chloride	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Naphthalene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
n-Propylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Styrene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1,1,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1,2,2-Tetrachloroethane	ND	0.00053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Tetrachloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Tetrahydrofuran	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Toluene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2,3-Trichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2,4-Trichlorobenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1,1-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,1,2-Trichloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Trichloroethylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Trichlorofluoromethane (Freon 11)	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2,3-Trichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,2,4-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
1,3,5-Trimethylbenzene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
Vinyl Chloride	ND	0.0053	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
m+p Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF
o-Xylene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:30	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	94.3	70-130		9/20/21 10:30
Toluene-d8	97.2	70-130		9/20/21 10:30
4-Bromofluorobenzene	97.6	70-130		9/20/21 10:30

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-3 (5-7) | Sampled: 9/16/2021 09:30

Sample ID: 21I0921-03

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1221 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1232 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1242 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1248 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1254 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1260 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1262 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG
Aroclor-1268 [1]	ND	0.090	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:27	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	90.5	30-150		9/22/21 11:27
Decachlorobiphenyl [2]	83.7	30-150		9/22/21 11:27
Tetrachloro-m-xylene [1]	75.3	30-150		9/22/21 11:27
Tetrachloro-m-xylene [2]	77.3	30-150		9/22/21 11:27

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-3 (5-7) | Sampled: 9/16/2021 09:30

Sample ID: 21I0921-03

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:26	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	57.5	40-140		9/22/21 11:26
o-Terphenyl (OTP)	59.0	40-140		9/22/21 11:26
2-Bromonaphthalene	83.6	40-140		9/22/21 11:26
2-Fluorobiphenyl	84.8	40-140		9/22/21 11:26

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-3 (5-7) | Sampled: 9/16/2021 09:30

Sample ID: 21I0921-03

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.2		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-4 (3-5) | Sampled: 9/16/2021 10:00

Sample ID: 21I0921-04

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1221 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1232 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1242 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1248 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1254 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1260 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1262 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG
Aroclor-1268 [1]	ND	0.089	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:39	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.5	30-150		9/22/21 11:39
Decachlorobiphenyl [2]	78.6	30-150		9/22/21 11:39
Tetrachloro-m-xylene [1]	71.6	30-150		9/22/21 11:39
Tetrachloro-m-xylene [2]	73.1	30-150		9/22/21 11:39

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-4 (3-5) | Sampled: 9/16/2021 10:00

Sample ID: 21I0921-04

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 11:45	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	57.4	40-140		9/22/21 11:45
o-Terphenyl (OTP)	59.5	40-140		9/22/21 11:45
2-Bromonaphthalene	73.6	40-140		9/22/21 11:45
2-Fluorobiphenyl	77.1	40-140		9/22/21 11:45

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-4 (3-5) | Sampled: 9/16/2021 10:00

Sample ID: 21I0921-04

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	89.8		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-5 (5-7) | Sampled: 9/16/2021 10:30

Sample ID: 21I0921-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Benzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Bromobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Bromochloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Bromodichloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Bromoform	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Bromomethane	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
2-Butanone (MEK)	ND	0.041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
n-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
sec-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
tert-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Carbon Disulfide	ND	0.0062	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Carbon Tetrachloride	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Chlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Chlorodibromomethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Chloroethane	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Chloroform	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Chloromethane	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
2-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
4-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Dibromomethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,3-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,4-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg dry	1	V-05	SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1-Dichloroethylene	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
cis-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
trans-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,3-Dichloropropane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
2,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1-Dichloropropene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Diethyl Ether	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,4-Dioxane	ND	0.10	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Ethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-5 (5-7) | Sampled: 9/16/2021 10:30

Sample ID: 21I0921-05

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
2-Hexanone (MBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Isopropylbenzene (Cumene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Methylene Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Naphthalene	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
n-Propylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Styrene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1,1,2-Tetrachloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Tetrachloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Tetrahydrofuran	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Toluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2,3-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2,4-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1,1-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,1,2-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Trichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2,3-Trichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,2,4-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
1,3,5-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
Vinyl Chloride	ND	0.010	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
m+p Xylene	ND	0.0041	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF
o-Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 10:59	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	97.9	70-130		9/20/21 10:59
Toluene-d8	98.7	70-130		9/20/21 10:59
4-Bromofluorobenzene	98.0	70-130		9/20/21 10:59

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-5 (5-7) | Sampled: 9/16/2021 10:30

Sample ID: 21I0921-05

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1221 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1232 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1242 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1248 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1254 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1260 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1262 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG
Aroclor-1268 [1]	ND	0.091	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 11:52	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	85.1	30-150		9/22/21 11:52
Decachlorobiphenyl [2]	79.0	30-150		9/22/21 11:52
Tetrachloro-m-xylene [1]	75.2	30-150		9/22/21 11:52
Tetrachloro-m-xylene [2]	77.2	30-150		9/22/21 11:52

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-5 (5-7) | Sampled: 9/16/2021 10:30

Sample ID: 21I0921-05

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:05	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	60.9	40-140		9/22/21 12:05
o-Terphenyl (OTP)	60.1	40-140		9/22/21 12:05
2-Bromonaphthalene	75.8	40-140		9/22/21 12:05
2-Fluorobiphenyl	78.7	40-140		9/22/21 12:05

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-5 (5-7) | Sampled: 9/16/2021 10:30

Sample ID: 21I0921-05

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	88.3		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-6 (3-5) | Sampled: 9/16/2021 11:00

Sample ID: 21I0921-06

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1221 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1232 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1242 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1248 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1254 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1260 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1262 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG
Aroclor-1268 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:04	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	84.3	30-150		9/22/21 12:04
Decachlorobiphenyl [2]	78.9	30-150		9/22/21 12:04
Tetrachloro-m-xylene [1]	74.0	30-150		9/22/21 12:04
Tetrachloro-m-xylene [2]	75.7	30-150		9/22/21 12:04

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-6 (3-5) | Sampled: 9/16/2021 11:00

Sample ID: 21I0921-06

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:24	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	53.8	40-140		9/22/21 12:24
o-Terphenyl (OTP)	55.1	40-140		9/22/21 12:24
2-Bromonaphthalene	71.0	40-140		9/22/21 12:24
2-Fluorobiphenyl	71.7	40-140		9/22/21 12:24

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-6 (3-5) | Sampled: 9/16/2021 11:00

Sample ID: 21I0921-06

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.9		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-7 (0-1) | Sampled: 9/16/2021 11:30

Sample ID: 21I0921-07

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1221 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1232 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1242 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1248 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1254 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1260 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1262 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG
Aroclor-1268 [1]	ND	0.095	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:16	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	99.2	30-150		9/22/21 12:16
Decachlorobiphenyl [2]	92.3	30-150		9/22/21 12:16
Tetrachloro-m-xylene [1]	82.4	30-150		9/22/21 12:16
Tetrachloro-m-xylene [2]	84.0	30-150		9/22/21 12:16

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-7 (0-1) | Sampled: 9/16/2021 11:30

Sample ID: 21I0921-07

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Unadjusted C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Benzo(a)anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Benzo(a)pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Benzo(b)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Benzo(g,h,i)perylene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Chrysene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Fluorene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Indeno(1,2,3-cd)pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Phenanthrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD
Pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 12:44	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	61.3	40-140		9/22/21 12:44
o-Terphenyl (OTP)	55.9	40-140		9/22/21 12:44
2-Bromonaphthalene	69.8	40-140		9/22/21 12:44
2-Fluorobiphenyl	72.4	40-140		9/22/21 12:44

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-7 (0-1) | Sampled: 9/16/2021 11:30

Sample ID: 21I0921-07

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.9		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-8 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-08

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1221 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1232 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1242 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1248 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1254 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1260 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1262 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG
Aroclor-1268 [1]	ND	0.092	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:29	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.5	30-150		9/22/21 12:29
Decachlorobiphenyl [2]	83.5	30-150		9/22/21 12:29
Tetrachloro-m-xylene [1]	74.2	30-150		9/22/21 12:29
Tetrachloro-m-xylene [2]	75.7	30-150		9/22/21 12:29

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-8 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-08

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
C19-C36 Aliphatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Unadjusted C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
C11-C22 Aromatics	ND	11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Acenaphthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Acenaphthylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Benzo(a)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Benzo(a)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Benzo(b)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Benzo(g,h,i)perylene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Benzo(k)fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Chrysene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Dibenz(a,h)anthracene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Fluoranthene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Fluorene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Indeno(1,2,3-cd)pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
2-Methylnaphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Naphthalene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Phenanthrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD
Pyrene	ND	0.11	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:03	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	49.5	40-140		9/22/21 13:03
o-Terphenyl (OTP)	50.6	40-140		9/22/21 13:03
2-Bromonaphthalene	76.8	40-140		9/22/21 13:03
2-Fluorobiphenyl	76.7	40-140		9/22/21 13:03

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-8 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-08

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	87.2		% Wt	1		SM 2540G	9/21/21	9/22/21 17:28	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (0-1) | Sampled: 9/16/2021 12:30

Sample ID: 21I0921-09

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1221 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1232 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1242 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1248 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1254 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1260 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1262 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG
Aroclor-1268 [1]	ND	0.10	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:42	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	89.6	30-150		9/22/21 12:42
Decachlorobiphenyl [2]	83.2	30-150		9/22/21 12:42
Tetrachloro-m-xylene [1]	78.7	30-150		9/22/21 12:42
Tetrachloro-m-xylene [2]	80.1	30-150		9/22/21 12:42

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (0-1) | Sampled: 9/16/2021 12:30

Sample ID: 21I0921-09

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	78.1		% Wt	1		SM 2540G	9/21/21	9/22/21 17:29	CV

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (8-10) | Sampled: 9/16/2021 13:00

Sample ID: 21I0921-10

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	8.5	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Benzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Bromobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Bromochloromethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Bromodichloromethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Bromoform	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Bromomethane	ND	0.34	mg/Kg dry	4	V-34	SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
2-Butanone (MEK)	ND	3.4	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
n-Butylbenzene	1.2	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
sec-Butylbenzene	0.28	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
tert-Butylbenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Carbon Disulfide	ND	1.7	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Carbon Tetrachloride	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Chlorobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Chlorodibromomethane	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Chloroethane	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Chloroform	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Chloromethane	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
2-Chlorotoluene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
4-Chlorotoluene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.68	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2-Dibromoethane (EDB)	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Dibromomethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2-Dichlorobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,3-Dichlorobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,4-Dichlorobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Dichlorodifluoromethane (Freon 12)	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1-Dichloroethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2-Dichloroethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1-Dichloroethylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
cis-1,2-Dichloroethylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
trans-1,2-Dichloroethylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2-Dichloropropane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,3-Dichloropropane	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
2,2-Dichloropropane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1-Dichloropropene	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
cis-1,3-Dichloropropene	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
trans-1,3-Dichloropropene	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Diethyl Ether	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Diisopropyl Ether (DIPE)	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,4-Dioxane	ND	8.5	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Ethylbenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (8-10) | Sampled: 9/16/2021 13:00

Sample ID: 21I0921-10

Sample Matrix: Soil

Sample Flags: RL-05

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
2-Hexanone (MBK)	ND	1.7	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Isopropylbenzene (Cumene)	0.25	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
p-Isopropyltoluene (p-Cymene)	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Methylene Chloride	ND	0.85	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
4-Methyl-2-pentanone (MIBK)	ND	1.7	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Naphthalene	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
n-Propylbenzene	1.6	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Styrene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1,1,2-Tetrachloroethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1,2,2-Tetrachloroethane	ND	0.085	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Tetrachloroethylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Tetrahydrofuran	ND	0.68	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Toluene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2,3-Trichlorobenzene	ND	0.68	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2,4-Trichlorobenzene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1,1-Trichloroethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,1,2-Trichloroethane	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Trichloroethylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Trichlorofluoromethane (Freon 11)	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2,3-Trichloropropane	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,2,4-Trimethylbenzene	2.1	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
1,3,5-Trimethylbenzene	3.2	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
Vinyl Chloride	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
m+p Xylene	ND	0.34	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH
o-Xylene	ND	0.17	mg/Kg dry	4		SW-846 8260C-D	9/20/21	9/20/21 14:51	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual		
1,2-Dichloroethane-d4	100	70-130		9/20/21	14:51
Toluene-d8	96.7	70-130		9/20/21	14:51
4-Bromofluorobenzene	101	70-130		9/20/21	14:51

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (8-10) | Sampled: 9/16/2021 13:00

Sample ID: 21I0921-10

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1221 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1232 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1242 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1248 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1254 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1260 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1262 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG
Aroclor-1268 [1]	ND	0.088	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 12:54	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	75.9	30-150		9/22/21 12:54
Decachlorobiphenyl [2]	70.7	30-150		9/22/21 12:54
Tetrachloro-m-xylene [1]	61.8	30-150		9/22/21 12:54
Tetrachloro-m-xylene [2]	63.4	30-150		9/22/21 12:54

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (8-10) | Sampled: 9/16/2021 13:00

Sample ID: 21I0921-10

Sample Matrix: Soil

Sample Flags: O-01, S-15

Soil/Methanol Preservation Ratio: 1.48

Petroleum Hydrocarbons Analyses - VPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Unadjusted C5-C8 Aliphatics	100	17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
C5-C8 Aliphatics	100	17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Unadjusted C9-C12 Aliphatics	160	17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
C9-C12 Aliphatics	89	17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
C9-C10 Aromatics	66	17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Benzene	0.30	0.085	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Ethylbenzene	0.18	0.085	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Methyl tert-Butyl Ether (MTBE)	ND	0.085	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Naphthalene	0.54	0.42	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
Toluene	ND	0.085	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
m+p Xylene	0.28	0.17	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB
o-Xylene	0.20	0.085	mg/Kg dry	2		MADEP-VPH-Feb 2018 Rev 2.1	9/21/21	9/21/21 19:10	KMB

Surrogates	% Recovery		Recovery Limits	Flag/Qual		
2,5-Dibromotoluene (FID)	**136**	*	70-130		9/21/21	19:10
2,5-Dibromotoluene (PID)	**131**	*	70-130		9/21/21	19:10

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-9 (8-10) | Sampled: 9/16/2021 13:00

Sample ID: 21I0921-10

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	90.8		% Wt	1		SM 2540G	9/21/21	9/22/21 17:29	CV

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-10 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-11

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
tert-Amyl Methyl Ether (TAME)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Benzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Bromobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Bromochloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Bromodichloromethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Bromoform	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Bromomethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
2-Butanone (MEK)	ND	0.042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
n-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
sec-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
tert-Butylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
tert-Butyl Ethyl Ether (TBEE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Carbon Disulfide	ND	0.0064	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Carbon Tetrachloride	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Chlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Chlorodibromomethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Chloroethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Chloroform	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Chloromethane	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
2-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
4-Chlorotoluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2-Dibromoethane (EDB)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Dibromomethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,3-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,4-Dichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Dichlorodifluoromethane (Freon 12)	ND	0.011	mg/Kg dry	1	V-05	SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2-Dichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1-Dichloroethylene	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
cis-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
trans-1,2-Dichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,3-Dichloropropane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
2,2-Dichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1-Dichloropropene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
cis-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
trans-1,3-Dichloropropene	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Diethyl Ether	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Diisopropyl Ether (DIPE)	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,4-Dioxane	ND	0.11	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Ethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-10 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-11

Sample Matrix: Soil

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Hexachlorobutadiene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
2-Hexanone (MBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Isopropylbenzene (Cumene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
p-Isopropyltoluene (p-Cymene)	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Methyl tert-Butyl Ether (MTBE)	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Methylene Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
4-Methyl-2-pentanone (MIBK)	ND	0.021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Naphthalene	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
n-Propylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Styrene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1,1,2-Tetrachloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1,2,2-Tetrachloroethane	ND	0.0011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Tetrachloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Tetrahydrofuran	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Toluene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2,3-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2,4-Trichlorobenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1,1-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,1,2-Trichloroethane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Trichloroethylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Trichlorofluoromethane (Freon 11)	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2,3-Trichloropropane	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,2,4-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
1,3,5-Trimethylbenzene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
Vinyl Chloride	ND	0.011	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
m+p Xylene	ND	0.0042	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF
o-Xylene	ND	0.0021	mg/Kg dry	1		SW-846 8260C-D	9/20/21	9/20/21 11:27	MFF

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	96.6	70-130		9/20/21 11:27
Toluene-d8	98.4	70-130		9/20/21 11:27
4-Bromofluorobenzene	96.6	70-130		9/20/21 11:27

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-10 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-11

Sample Matrix: Soil

Sample Flags: O-32

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1221 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1232 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1242 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1248 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1254 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1260 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1262 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG
Aroclor-1268 [1]	ND	0.096	mg/Kg dry	4		SW-846 8082A	9/17/21	9/22/21 13:07	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	104	30-150		9/22/21 13:07
Decachlorobiphenyl [2]	96.0	30-150		9/22/21 13:07
Tetrachloro-m-xylene [1]	90.8	30-150		9/22/21 13:07
Tetrachloro-m-xylene [2]	92.2	30-150		9/22/21 13:07

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-10 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-11

Sample Matrix: Soil

Petroleum Hydrocarbons Analyses - EPH

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
C9-C18 Aliphatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
C19-C36 Aliphatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Unadjusted C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
C11-C22 Aromatics	ND	12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Acenaphthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Acenaphthylene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Benzo(a)anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Benzo(a)pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Benzo(b)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Benzo(g,h,i)perylene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Benzo(k)fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Chrysene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Dibenz(a,h)anthracene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Fluoranthene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Fluorene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Indeno(1,2,3-cd)pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
2-Methylnaphthalene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Naphthalene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Phenanthrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD
Pyrene	ND	0.12	mg/Kg dry	1		MADEP EPH rev 2.1	9/18/21	9/22/21 13:23	RDD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Chlorooctadecane (COD)	56.9	40-140		9/22/21 13:23
o-Terphenyl (OTP)	59.1	40-140		9/22/21 13:23
2-Bromonaphthalene	91.8	40-140		9/22/21 13:23
2-Fluorobiphenyl	94.7	40-140		9/22/21 13:23

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0921

Date Received: 9/17/2021

Field Sample #: B-10 (1-3) | Sampled: 9/16/2021 12:00

Sample ID: 21I0921-11

Sample Matrix: Soil

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
% Solids	83.2		% Wt	1		SM 2540G	9/21/21	9/22/21 17:29	CV

con-test®
A Pace Analytical® Laboratory

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

Sample Extraction Data

Prep Method: SW-846 3546 **Analytical Method: MADEP EPH rev 2.1**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21I0921-01 [B-1 (5-7)]	B290504	20.3	2.00	09/18/21
21I0921-02 [B-2 (1-3)]	B290504	20.3	2.00	09/18/21
21I0921-03 [B-3 (5-7)]	B290504	20.0	2.00	09/18/21
21I0921-04 [B-4 (3-5)]	B290504	20.4	2.00	09/18/21
21I0921-05 [B-5 (5-7)]	B290504	20.0	2.00	09/18/21
21I0921-06 [B-6 (3-5)]	B290504	20.1	2.00	09/18/21
21I0921-07 [B-7 (0-1)]	B290504	20.4	2.00	09/18/21
21I0921-08 [B-8 (1-3)]	B290504	20.1	2.00	09/18/21
21I0921-11 [B-10 (1-3)]	B290504	20.2	2.00	09/18/21

Prep Method: MA VPH **Analytical Method: MADEP-VPH-Feb 2018 Rev 2.1**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21I0921-10 [B-9 (8-10)]	B290675	22.2	17.0	09/21/21

Prep Method: % Solids **Analytical Method: SM 2540G**

Lab Number [Field ID]	Batch	Date
21I0921-01 [B-1 (5-7)]	B290709	09/21/21
21I0921-02 [B-2 (1-3)]	B290709	09/21/21
21I0921-03 [B-3 (5-7)]	B290709	09/21/21
21I0921-04 [B-4 (3-5)]	B290709	09/21/21
21I0921-05 [B-5 (5-7)]	B290709	09/21/21
21I0921-06 [B-6 (3-5)]	B290709	09/21/21
21I0921-07 [B-7 (0-1)]	B290709	09/21/21
21I0921-08 [B-8 (1-3)]	B290709	09/21/21
21I0921-09 [B-9 (0-1)]	B290709	09/21/21
21I0921-10 [B-9 (8-10)]	B290709	09/21/21
21I0921-11 [B-10 (1-3)]	B290709	09/21/21

Prep Method: SW-846 3546 **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21I0921-01 [B-1 (5-7)]	B290486	10.0	10.0	09/17/21
21I0921-02 [B-2 (1-3)]	B290486	10.0	10.0	09/17/21
21I0921-03 [B-3 (5-7)]	B290486	10.0	10.0	09/17/21
21I0921-04 [B-4 (3-5)]	B290486	10.0	10.0	09/17/21
21I0921-05 [B-5 (5-7)]	B290486	10.0	10.0	09/17/21
21I0921-06 [B-6 (3-5)]	B290486	10.0	10.0	09/17/21
21I0921-07 [B-7 (0-1)]	B290486	10.0	10.0	09/17/21
21I0921-08 [B-8 (1-3)]	B290486	10.0	10.0	09/17/21
21I0921-09 [B-9 (0-1)]	B290486	10.0	10.0	09/17/21
21I0921-10 [B-9 (8-10)]	B290486	10.0	10.0	09/17/21
21I0921-11 [B-10 (1-3)]	B290486	10.0	10.0	09/17/21

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Sample Amount(g)	Methanol Volume(mL)	Methanol Aliquot(mL)	Final Volume(mL)	Date
21I0921-10 [B-9 (8-10)]	B290528	22.2	17.0	0.25	50	09/20/21

con-test®
A Pace Analytical® Laboratory

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

Sample Extraction Data

Prep Method: SW-846 5035 **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [g]	Final [mL]	Date
21I0921-01 [B-1 (5-7)]	B290543	9.80	10.0	09/20/21
21I0921-03 [B-3 (5-7)]	B290543	10.7	10.0	09/20/21
21I0921-05 [B-5 (5-7)]	B290543	5.52	10.0	09/20/21
21I0921-11 [B-10 (1-3)]	B290543	5.67	10.0	09/20/21

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290528 - SW-846 5035										
Blank (B290528-BLK1)				Prepared & Analyzed: 09/20/21						
Acetone	ND	2.5	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.025	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Bromobenzene	ND	0.050	mg/Kg wet							
Bromochloromethane	ND	0.050	mg/Kg wet							
Bromodichloromethane	ND	0.050	mg/Kg wet							
Bromoform	ND	0.050	mg/Kg wet							
Bromomethane	ND	0.10	mg/Kg wet							V-34
2-Butanone (MEK)	ND	1.0	mg/Kg wet							
n-Butylbenzene	ND	0.050	mg/Kg wet							
sec-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butylbenzene	ND	0.050	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.025	mg/Kg wet							
Carbon Disulfide	ND	0.50	mg/Kg wet							
Carbon Tetrachloride	ND	0.050	mg/Kg wet							
Chlorobenzene	ND	0.050	mg/Kg wet							
Chlorodibromomethane	ND	0.025	mg/Kg wet							
Chloroethane	ND	0.10	mg/Kg wet							
Chloroform	ND	0.10	mg/Kg wet							
Chloromethane	ND	0.10	mg/Kg wet							
2-Chlorotoluene	ND	0.050	mg/Kg wet							
4-Chlorotoluene	ND	0.050	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.20	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.025	mg/Kg wet							
Dibromomethane	ND	0.050	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.050	mg/Kg wet							
1,4-Dichlorobenzene	ND	0.050	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.10	mg/Kg wet							
1,1-Dichloroethane	ND	0.050	mg/Kg wet							
1,2-Dichloroethane	ND	0.050	mg/Kg wet							
1,1-Dichloroethylene	ND	0.050	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.050	mg/Kg wet							
1,2-Dichloropropane	ND	0.050	mg/Kg wet							
1,3-Dichloropropane	ND	0.025	mg/Kg wet							
2,2-Dichloropropane	ND	0.050	mg/Kg wet							
1,1-Dichloropropene	ND	0.10	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.025	mg/Kg wet							
Diethyl Ether	ND	0.10	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.025	mg/Kg wet							
1,4-Dioxane	ND	2.5	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Hexachlorobutadiene	ND	0.050	mg/Kg wet							
2-Hexanone (MBK)	ND	0.50	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.050	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
Methylene Chloride	ND	0.25	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.50	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC		%REC Limits	RPD	RPD Limit	Notes	
Batch B290528 - SW-846 5035												
Blank (B290528-BLK1)				Prepared & Analyzed: 09/20/21								
n-Propylbenzene	ND	0.050	mg/Kg wet									
Styrene	ND	0.050	mg/Kg wet									
1,1,1,2-Tetrachloroethane	ND	0.050	mg/Kg wet									
1,1,2,2-Tetrachloroethane	ND	0.025	mg/Kg wet									
Tetrachloroethylene	ND	0.050	mg/Kg wet									
Tetrahydrofuran	ND	0.20	mg/Kg wet									
Toluene	ND	0.050	mg/Kg wet									
1,2,3-Trichlorobenzene	ND	0.20	mg/Kg wet									
1,2,4-Trichlorobenzene	ND	0.050	mg/Kg wet									
1,1,1-Trichloroethane	ND	0.050	mg/Kg wet									
1,1,2-Trichloroethane	ND	0.050	mg/Kg wet									
Trichloroethylene	ND	0.050	mg/Kg wet									
Trichlorofluoromethane (Freon 11)	ND	0.10	mg/Kg wet									
1,2,3-Trichloropropane	ND	0.10	mg/Kg wet									
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet									
1,3,5-Trimethylbenzene	ND	0.050	mg/Kg wet									
Vinyl Chloride	ND	0.10	mg/Kg wet									
m+p Xylene	ND	0.10	mg/Kg wet									
o-Xylene	ND	0.050	mg/Kg wet									
Surrogate: 1,2-Dichloroethane-d4	*0.0257*		mg/Kg wet	0.0250		103		70-130				
Surrogate: Toluene-d8	*0.0242*		mg/Kg wet	0.0250		96.8		70-130				
Surrogate: 4-Bromofluorobenzene	*0.0237*		mg/Kg wet	0.0250		94.8		70-130				
LCS (B290528-BS1)				Prepared & Analyzed: 09/20/21								
Acetone	0.116	0.057	mg/Kg wet	0.113		103		40-160				†
tert-Amyl Methyl Ether (TAME)	0.0117	0.00057	mg/Kg wet	0.0113		104		70-130				
Benzene	0.0110	0.0011	mg/Kg wet	0.0113		97.4		70-130				
Bromobenzene	0.0121	0.0011	mg/Kg wet	0.0113		106		70-130				
Bromochloromethane	0.0135	0.0011	mg/Kg wet	0.0113		120		70-130				
Bromodichloromethane	0.0128	0.0011	mg/Kg wet	0.0113		113		70-130				
Bromoform	0.0143	0.0011	mg/Kg wet	0.0113		126		70-130			V-20	
Bromomethane	0.0117	0.0023	mg/Kg wet	0.0113		103		40-160			V-34	†
2-Butanone (MEK)	0.117	0.023	mg/Kg wet	0.113		104		40-160				†
n-Butylbenzene	0.0103	0.0011	mg/Kg wet	0.0113		90.6		70-130				
sec-Butylbenzene	0.0104	0.0011	mg/Kg wet	0.0113		91.6		70-130				
tert-Butylbenzene	0.0104	0.0011	mg/Kg wet	0.0113		91.4		70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0124	0.00057	mg/Kg wet	0.0113		109		70-130				
Carbon Disulfide	0.121	0.011	mg/Kg wet	0.113		107		70-130				
Carbon Tetrachloride	0.0122	0.0011	mg/Kg wet	0.0113		108		70-130				
Chlorobenzene	0.0122	0.0011	mg/Kg wet	0.0113		107		70-130				
Chlorodibromomethane	0.0133	0.00057	mg/Kg wet	0.0113		117		70-130				
Chloroethane	0.0154	0.0023	mg/Kg wet	0.0113		**136**	*	70-130			L-07, V-20	
Chloroform	0.0120	0.0023	mg/Kg wet	0.0113		106		70-130				
Chloromethane	0.0113	0.0023	mg/Kg wet	0.0113		99.6		40-160				†
2-Chlorotoluene	0.0106	0.0011	mg/Kg wet	0.0113		93.8		70-130				
4-Chlorotoluene	0.0117	0.0011	mg/Kg wet	0.0113		103		70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0107	0.0045	mg/Kg wet	0.0113		94.2		70-130				
1,2-Dibromoethane (EDB)	0.0126	0.00057	mg/Kg wet	0.0113		111		70-130				
Dibromomethane	0.0134	0.0011	mg/Kg wet	0.0113		118		70-130				
1,2-Dichlorobenzene	0.0119	0.0011	mg/Kg wet	0.0113		105		70-130				
1,3-Dichlorobenzene	0.0116	0.0011	mg/Kg wet	0.0113		103		70-130				
1,4-Dichlorobenzene	0.0118	0.0011	mg/Kg wet	0.0113		104		70-130				

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B290528 - SW-846 5035											
LCS (B290528-BS1)				Prepared & Analyzed: 09/20/21							
Dichlorodifluoromethane (Freon 12)	0.0137	0.0023	mg/Kg wet	0.0113		121	40-160			V-20	†
1,1-Dichloroethane	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130				
1,2-Dichloroethane	0.0122	0.0011	mg/Kg wet	0.0113		107	70-130				
1,1-Dichloroethylene	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130				
cis-1,2-Dichloroethylene	0.0121	0.0011	mg/Kg wet	0.0113		106	70-130				
trans-1,2-Dichloroethylene	0.0105	0.0011	mg/Kg wet	0.0113		93.0	70-130				
1,2-Dichloropropane	0.0124	0.0011	mg/Kg wet	0.0113		109	70-130				
1,3-Dichloropropane	0.0125	0.00057	mg/Kg wet	0.0113		110	70-130				
2,2-Dichloropropane	0.0127	0.0011	mg/Kg wet	0.0113		112	70-130				
1,1-Dichloropropene	0.0113	0.0023	mg/Kg wet	0.0113		100	70-130				
cis-1,3-Dichloropropene	0.0121	0.00057	mg/Kg wet	0.0113		107	70-130				
trans-1,3-Dichloropropene	0.0126	0.00057	mg/Kg wet	0.0113		111	70-130				
Diethyl Ether	0.0124	0.0023	mg/Kg wet	0.0113		109	70-130				
Diisopropyl Ether (DIPE)	0.0121	0.00057	mg/Kg wet	0.0113		106	70-130				
1,4-Dioxane	0.113	0.057	mg/Kg wet	0.113		99.5	40-160				†
Ethylbenzene	0.0115	0.0011	mg/Kg wet	0.0113		102	70-130				
Hexachlorobutadiene	0.0113	0.0011	mg/Kg wet	0.0113		99.8	70-130				
2-Hexanone (MBK)	0.123	0.011	mg/Kg wet	0.113		108	40-160				†
Isopropylbenzene (Cumene)	0.0115	0.0011	mg/Kg wet	0.0113		101	70-130				
p-Isopropyltoluene (p-Cymene)	0.0106	0.0011	mg/Kg wet	0.0113		93.2	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0121	0.0011	mg/Kg wet	0.0113		106	70-130				
Methylene Chloride	0.0136	0.0057	mg/Kg wet	0.0113		120	70-130				
4-Methyl-2-pentanone (MIBK)	0.125	0.011	mg/Kg wet	0.113		110	40-160				†
Naphthalene	0.00898	0.0023	mg/Kg wet	0.0113		79.2	70-130				
n-Propylbenzene	0.0111	0.0011	mg/Kg wet	0.0113		98.2	70-130				
Styrene	0.0117	0.0011	mg/Kg wet	0.0113		104	70-130				
1,1,1,2-Tetrachloroethane	0.0133	0.0011	mg/Kg wet	0.0113		117	70-130				
1,1,2,2-Tetrachloroethane	0.0129	0.00057	mg/Kg wet	0.0113		114	70-130				
Tetrachloroethylene	0.0124	0.0011	mg/Kg wet	0.0113		110	70-130				
Tetrahydrofuran	0.0115	0.0045	mg/Kg wet	0.0113		101	70-130				
Toluene	0.0114	0.0011	mg/Kg wet	0.0113		101	70-130				
1,2,3-Trichlorobenzene	0.00989	0.0045	mg/Kg wet	0.0113		87.3	70-130				
1,2,4-Trichlorobenzene	0.0101	0.0011	mg/Kg wet	0.0113		88.8	70-130				
1,1,1-Trichloroethane	0.0119	0.0011	mg/Kg wet	0.0113		105	70-130				
1,1,2-Trichloroethane	0.0126	0.0011	mg/Kg wet	0.0113		111	70-130				
Trichloroethylene	0.0118	0.0011	mg/Kg wet	0.0113		104	70-130				
Trichlorofluoromethane (Freon 11)	0.0128	0.0023	mg/Kg wet	0.0113		113	70-130				
1,2,3-Trichloropropane	0.0129	0.0023	mg/Kg wet	0.0113		114	70-130				
1,2,4-Trimethylbenzene	0.0107	0.0011	mg/Kg wet	0.0113		94.3	70-130				
1,3,5-Trimethylbenzene	0.0111	0.0011	mg/Kg wet	0.0113		97.9	70-130				
Vinyl Chloride	0.0106	0.0023	mg/Kg wet	0.0113		93.9	70-130				
m+p Xylene	0.0233	0.0023	mg/Kg wet	0.0227		103	70-130				
o-Xylene	0.0118	0.0011	mg/Kg wet	0.0113		104	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0288*		mg/Kg wet	0.0283		102	70-130				
Surrogate: Toluene-d8	*0.0274*		mg/Kg wet	0.0283		96.7	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0282*		mg/Kg wet	0.0283		99.6	70-130				

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B290528 - SW-846 5035											
LCS Dup (B290528-BSD1)				Prepared & Analyzed: 09/20/21							
Acetone	0.117	0.057	mg/Kg wet	0.113		103	40-160	0.399	20		†
tert-Amyl Methyl Ether (TAME)	0.0113	0.00057	mg/Kg wet	0.0113		100	70-130	3.44	20		
Benzene	0.0107	0.0011	mg/Kg wet	0.0113		94.6	70-130	2.92	20		
Bromobenzene	0.0116	0.0011	mg/Kg wet	0.0113		102	70-130	3.93	20		
Bromochloromethane	0.0129	0.0011	mg/Kg wet	0.0113		114	70-130	4.80	20		
Bromodichloromethane	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130	6.50	20		
Bromoform	0.0140	0.0011	mg/Kg wet	0.0113		123	70-130	1.93	20	V-20	
Bromomethane	0.0121	0.0023	mg/Kg wet	0.0113		107	40-160	3.42	20	V-34	†
2-Butanone (MEK)	0.121	0.023	mg/Kg wet	0.113		107	40-160	3.15	20		†
n-Butylbenzene	0.00966	0.0011	mg/Kg wet	0.0113		85.2	70-130	6.14	20		
sec-Butylbenzene	0.00997	0.0011	mg/Kg wet	0.0113		88.0	70-130	4.01	20		
tert-Butylbenzene	0.0101	0.0011	mg/Kg wet	0.0113		89.5	70-130	2.10	20		
tert-Butyl Ethyl Ether (TBEE)	0.0118	0.00057	mg/Kg wet	0.0113		104	70-130	4.69	20		
Carbon Disulfide	0.117	0.011	mg/Kg wet	0.113		103	70-130	3.49	20		
Carbon Tetrachloride	0.0121	0.0011	mg/Kg wet	0.0113		106	70-130	1.40	20		
Chlorobenzene	0.0119	0.0011	mg/Kg wet	0.0113		105	70-130	2.36	20		
Chlorodibromomethane	0.0127	0.00057	mg/Kg wet	0.0113		112	70-130	4.44	20		
Chloroethane	0.0148	0.0023	mg/Kg wet	0.0113		130	70-130	4.28	20	V-20	
Chloroform	0.0115	0.0023	mg/Kg wet	0.0113		101	70-130	4.35	20		
Chloromethane	0.0117	0.0023	mg/Kg wet	0.0113		104	40-160	3.84	20		†
2-Chlorotoluene	0.0104	0.0011	mg/Kg wet	0.0113		91.9	70-130	2.05	20		
4-Chlorotoluene	0.0112	0.0011	mg/Kg wet	0.0113		98.4	70-130	4.37	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0107	0.0045	mg/Kg wet	0.0113		94.3	70-130	0.106	20		
1,2-Dibromoethane (EDB)	0.0124	0.00057	mg/Kg wet	0.0113		109	70-130	1.72	20		
Dibromomethane	0.0130	0.0011	mg/Kg wet	0.0113		114	70-130	3.35	20		
1,2-Dichlorobenzene	0.0112	0.0011	mg/Kg wet	0.0113		98.9	70-130	6.17	20		
1,3-Dichlorobenzene	0.0113	0.0011	mg/Kg wet	0.0113		99.4	70-130	3.07	20		
1,4-Dichlorobenzene	0.0111	0.0011	mg/Kg wet	0.0113		97.9	70-130	6.04	20		
Dichlorodifluoromethane (Freon 12)	0.0133	0.0023	mg/Kg wet	0.0113		118	40-160	2.60	20	V-20	†
1,1-Dichloroethane	0.0116	0.0011	mg/Kg wet	0.0113		102	70-130	3.46	20		
1,2-Dichloroethane	0.0117	0.0011	mg/Kg wet	0.0113		103	70-130	4.09	20		
1,1-Dichloroethylene	0.0115	0.0011	mg/Kg wet	0.0113		102	70-130	4.13	20		
cis-1,2-Dichloroethylene	0.0118	0.0011	mg/Kg wet	0.0113		104	70-130	2.47	20		
trans-1,2-Dichloroethylene	0.0106	0.0011	mg/Kg wet	0.0113		93.3	70-130	0.322	20		
1,2-Dichloropropane	0.0119	0.0011	mg/Kg wet	0.0113		105	70-130	3.54	20		
1,3-Dichloropropane	0.0123	0.00057	mg/Kg wet	0.0113		109	70-130	1.55	20		
2,2-Dichloropropane	0.0120	0.0011	mg/Kg wet	0.0113		106	70-130	5.41	20		
1,1-Dichloropropene	0.0111	0.0023	mg/Kg wet	0.0113		97.8	70-130	2.22	20		
cis-1,3-Dichloropropene	0.0117	0.00057	mg/Kg wet	0.0113		103	70-130	4.09	20		
trans-1,3-Dichloropropene	0.0122	0.00057	mg/Kg wet	0.0113		108	70-130	3.20	20		
Diethyl Ether	0.0118	0.0023	mg/Kg wet	0.0113		104	70-130	4.69	20		
Diisopropyl Ether (DIPE)	0.0118	0.00057	mg/Kg wet	0.0113		104	70-130	1.80	20		
1,4-Dioxane	0.117	0.057	mg/Kg wet	0.113		103	40-160	3.82	20		†
Ethylbenzene	0.0112	0.0011	mg/Kg wet	0.0113		99.0	70-130	2.89	20		
Hexachlorobutadiene	0.0103	0.0011	mg/Kg wet	0.0113		90.7	70-130	9.55	20		
2-Hexanone (MBK)	0.122	0.011	mg/Kg wet	0.113		108	40-160	0.287	20		†
Isopropylbenzene (Cumene)	0.0112	0.0011	mg/Kg wet	0.0113		98.5	70-130	2.70	20		
p-Isopropyltoluene (p-Cymene)	0.0100	0.0011	mg/Kg wet	0.0113		88.2	70-130	5.51	20		
Methyl tert-Butyl Ether (MTBE)	0.0118	0.0011	mg/Kg wet	0.0113		104	70-130	2.19	20		
Methylene Chloride	0.0127	0.0057	mg/Kg wet	0.0113		112	70-130	7.16	20		
4-Methyl-2-pentanone (MIBK)	0.124	0.011	mg/Kg wet	0.113		109	40-160	1.04	20		†
Naphthalene	0.00821	0.0023	mg/Kg wet	0.0113		72.4	70-130	8.97	20		

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290528 - SW-846 5035										
LCS Dup (B290528-BSD1)				Prepared & Analyzed: 09/20/21						
n-Propylbenzene	0.0107	0.0011	mg/Kg wet	0.0113		94.8	70-130	3.52	20	
Styrene	0.0114	0.0011	mg/Kg wet	0.0113		100	70-130	3.04	20	
1,1,1,2-Tetrachloroethane	0.0125	0.0011	mg/Kg wet	0.0113		110	70-130	6.24	20	
1,1,2,2-Tetrachloroethane	0.0127	0.00057	mg/Kg wet	0.0113		112	70-130	1.59	20	
Tetrachloroethylene	0.0118	0.0011	mg/Kg wet	0.0113		104	70-130	5.62	20	
Tetrahydrofuran	0.0116	0.0045	mg/Kg wet	0.0113		103	70-130	1.37	20	
Toluene	0.0111	0.0011	mg/Kg wet	0.0113		98.3	70-130	2.61	20	
1,2,3-Trichlorobenzene	0.00940	0.0045	mg/Kg wet	0.0113		82.9	70-130	5.17	20	
1,2,4-Trichlorobenzene	0.00949	0.0011	mg/Kg wet	0.0113		83.7	70-130	5.91	20	
1,1,1-Trichloroethane	0.0115	0.0011	mg/Kg wet	0.0113		102	70-130	3.29	20	
1,1,2-Trichloroethane	0.0124	0.0011	mg/Kg wet	0.0113		109	70-130	1.90	20	
Trichloroethylene	0.0115	0.0011	mg/Kg wet	0.0113		102	70-130	2.63	20	
Trichlorofluoromethane (Freon 11)	0.0129	0.0023	mg/Kg wet	0.0113		114	70-130	0.616	20	
1,2,3-Trichloropropane	0.0126	0.0023	mg/Kg wet	0.0113		111	70-130	2.58	20	
1,2,4-Trimethylbenzene	0.0102	0.0011	mg/Kg wet	0.0113		90.4	70-130	4.22	20	
1,3,5-Trimethylbenzene	0.0108	0.0011	mg/Kg wet	0.0113		95.7	70-130	2.27	20	
Vinyl Chloride	0.0104	0.0023	mg/Kg wet	0.0113		92.1	70-130	1.94	20	
m+p Xylene	0.0225	0.0023	mg/Kg wet	0.0227		99.4	70-130	3.12	20	
o-Xylene	0.0114	0.0011	mg/Kg wet	0.0113		100	70-130	3.52	20	
Surrogate: 1,2-Dichloroethane-d4	*0.0287*		mg/Kg wet	0.0283		101	70-130			
Surrogate: Toluene-d8	*0.0275*		mg/Kg wet	0.0283		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0284*		mg/Kg wet	0.0283		100	70-130			
Batch B290543 - SW-846 5035										
Blank (B290543-BLK1)				Prepared & Analyzed: 09/20/21						
Acetone	ND	0.10	mg/Kg wet							
tert-Amyl Methyl Ether (TAME)	ND	0.0010	mg/Kg wet							
Benzene	ND	0.0020	mg/Kg wet							
Bromobenzene	ND	0.0020	mg/Kg wet							
Bromochloromethane	ND	0.0020	mg/Kg wet							
Bromodichloromethane	ND	0.0020	mg/Kg wet							
Bromoform	ND	0.0020	mg/Kg wet							
Bromomethane	ND	0.010	mg/Kg wet							
2-Butanone (MEK)	ND	0.040	mg/Kg wet							
n-Butylbenzene	ND	0.0020	mg/Kg wet							
sec-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butylbenzene	ND	0.0020	mg/Kg wet							
tert-Butyl Ethyl Ether (TBEE)	ND	0.0010	mg/Kg wet							
Carbon Disulfide	ND	0.0060	mg/Kg wet							
Carbon Tetrachloride	ND	0.0020	mg/Kg wet							
Chlorobenzene	ND	0.0020	mg/Kg wet							
Chlorodibromomethane	ND	0.0010	mg/Kg wet							
Chloroethane	ND	0.010	mg/Kg wet							
Chloroform	ND	0.0040	mg/Kg wet							
Chloromethane	ND	0.010	mg/Kg wet							
2-Chlorotoluene	ND	0.0020	mg/Kg wet							
4-Chlorotoluene	ND	0.0020	mg/Kg wet							
1,2-Dibromo-3-chloropropane (DBCP)	ND	0.0020	mg/Kg wet							
1,2-Dibromoethane (EDB)	ND	0.0010	mg/Kg wet							
Dibromomethane	ND	0.0020	mg/Kg wet							
1,2-Dichlorobenzene	ND	0.0020	mg/Kg wet							
1,3-Dichlorobenzene	ND	0.0020	mg/Kg wet							

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290543 - SW-846 5035										
Blank (B290543-BLK1)				Prepared & Analyzed: 09/20/21						
1,4-Dichlorobenzene	ND	0.0020	mg/Kg wet							
Dichlorodifluoromethane (Freon 12)	ND	0.010	mg/Kg wet							V-05
1,1-Dichloroethane	ND	0.0020	mg/Kg wet							
1,2-Dichloroethane	ND	0.0020	mg/Kg wet							
1,1-Dichloroethylene	ND	0.0040	mg/Kg wet							
cis-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
trans-1,2-Dichloroethylene	ND	0.0020	mg/Kg wet							
1,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,3-Dichloropropane	ND	0.0010	mg/Kg wet							
2,2-Dichloropropane	ND	0.0020	mg/Kg wet							
1,1-Dichloropropene	ND	0.0020	mg/Kg wet							
cis-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
trans-1,3-Dichloropropene	ND	0.0010	mg/Kg wet							
Diethyl Ether	ND	0.010	mg/Kg wet							
Diisopropyl Ether (DIPE)	ND	0.0010	mg/Kg wet							
1,4-Dioxane	ND	0.10	mg/Kg wet							
Ethylbenzene	ND	0.0020	mg/Kg wet							
Hexachlorobutadiene	ND	0.0020	mg/Kg wet							
2-Hexanone (MBK)	ND	0.020	mg/Kg wet							
Isopropylbenzene (Cumene)	ND	0.0020	mg/Kg wet							
p-Isopropyltoluene (p-Cymene)	ND	0.0020	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.0040	mg/Kg wet							
Methylene Chloride	ND	0.010	mg/Kg wet							
4-Methyl-2-pentanone (MIBK)	ND	0.020	mg/Kg wet							
Naphthalene	ND	0.0040	mg/Kg wet							
n-Propylbenzene	ND	0.0020	mg/Kg wet							
Styrene	ND	0.0020	mg/Kg wet							
1,1,1,2-Tetrachloroethane	ND	0.0020	mg/Kg wet							
1,1,2,2-Tetrachloroethane	ND	0.0010	mg/Kg wet							
Tetrachloroethylene	ND	0.0020	mg/Kg wet							
Tetrahydrofuran	ND	0.010	mg/Kg wet							
Toluene	ND	0.0020	mg/Kg wet							
1,2,3-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,2,4-Trichlorobenzene	ND	0.0020	mg/Kg wet							
1,1,1-Trichloroethane	ND	0.0020	mg/Kg wet							
1,1,2-Trichloroethane	ND	0.0020	mg/Kg wet							
Trichloroethylene	ND	0.0020	mg/Kg wet							
Trichlorofluoromethane (Freon 11)	ND	0.010	mg/Kg wet							
1,2,3-Trichloropropane	ND	0.0020	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.0020	mg/Kg wet							
1,3,5-Trimethylbenzene	ND	0.0020	mg/Kg wet							
Vinyl Chloride	ND	0.010	mg/Kg wet							
m+p Xylene	ND	0.0040	mg/Kg wet							
o-Xylene	ND	0.0020	mg/Kg wet							
Surrogate: 1,2-Dichloroethane-d4	*0.0477*		mg/Kg wet	0.0500		95.4	70-130			
Surrogate: Toluene-d8	*0.0483*		mg/Kg wet	0.0500		96.5	70-130			
Surrogate: 4-Bromofluorobenzene	*0.0504*		mg/Kg wet	0.0500		101	70-130			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B290543 - SW-846 5035											
LCS (B290543-BS1)				Prepared & Analyzed: 09/20/21							
Acetone	0.191	0.10	mg/Kg wet	0.200		95.5	40-160				†
tert-Amyl Methyl Ether (TAME)	0.0172	0.0010	mg/Kg wet	0.0200		85.8	70-130				
Benzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130				
Bromobenzene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
Bromochloromethane	0.0215	0.0020	mg/Kg wet	0.0200		108	70-130				
Bromodichloromethane	0.0203	0.0020	mg/Kg wet	0.0200		101	70-130				
Bromoform	0.0244	0.0020	mg/Kg wet	0.0200		122	70-130			V-20	
Bromomethane	0.0184	0.010	mg/Kg wet	0.0200		92.1	40-160				†
2-Butanone (MEK)	0.176	0.040	mg/Kg wet	0.200		88.0	40-160				†
n-Butylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
sec-Butylbenzene	0.0209	0.0020	mg/Kg wet	0.0200		104	70-130				
tert-Butylbenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130				
tert-Butyl Ethyl Ether (TBEE)	0.0171	0.0010	mg/Kg wet	0.0200		85.3	70-130				
Carbon Disulfide	0.208	0.0060	mg/Kg wet	0.200		104	70-130				
Carbon Tetrachloride	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Chlorobenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Chlorodibromomethane	0.0217	0.0010	mg/Kg wet	0.0200		108	70-130				
Chloroethane	0.0195	0.010	mg/Kg wet	0.0200		97.3	70-130				
Chloroform	0.0206	0.0040	mg/Kg wet	0.0200		103	70-130				
Chloromethane	0.0175	0.010	mg/Kg wet	0.0200		87.6	40-160				†
2-Chlorotoluene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
4-Chlorotoluene	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	0.0187	0.0020	mg/Kg wet	0.0200		93.4	70-130				
1,2-Dibromoethane (EDB)	0.0224	0.0010	mg/Kg wet	0.0200		112	70-130				
Dibromomethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,2-Dichlorobenzene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,3-Dichlorobenzene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130				
1,4-Dichlorobenzene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Dichlorodifluoromethane (Freon 12)	0.0144	0.010	mg/Kg wet	0.0200		72.2	40-160			V-05	†
1,1-Dichloroethane	0.0196	0.0020	mg/Kg wet	0.0200		98.2	70-130				
1,2-Dichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1-Dichloroethylene	0.0196	0.0040	mg/Kg wet	0.0200		98.0	70-130				
cis-1,2-Dichloroethylene	0.0190	0.0020	mg/Kg wet	0.0200		94.9	70-130				
trans-1,2-Dichloroethylene	0.0198	0.0020	mg/Kg wet	0.0200		99.0	70-130				
1,2-Dichloropropane	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130				
1,3-Dichloropropane	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130				
2,2-Dichloropropane	0.0189	0.0020	mg/Kg wet	0.0200		94.6	70-130				
1,1-Dichloropropene	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130				
cis-1,3-Dichloropropene	0.0204	0.0010	mg/Kg wet	0.0200		102	70-130				
trans-1,3-Dichloropropene	0.0200	0.0010	mg/Kg wet	0.0200		100	70-130				
Diethyl Ether	0.0202	0.010	mg/Kg wet	0.0200		101	70-130				
Diisopropyl Ether (DIPE)	0.0169	0.0010	mg/Kg wet	0.0200		84.3	70-130				
1,4-Dioxane	0.209	0.10	mg/Kg wet	0.200		105	40-160				†
Ethylbenzene	0.0196	0.0020	mg/Kg wet	0.0200		97.9	70-130				
Hexachlorobutadiene	0.0226	0.0020	mg/Kg wet	0.0200		113	70-130			V-20	
2-Hexanone (MBK)	0.169	0.020	mg/Kg wet	0.200		84.3	40-160				†
Isopropylbenzene (Cumene)	0.0217	0.0020	mg/Kg wet	0.0200		109	70-130				
p-Isopropyltoluene (p-Cymene)	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
Methyl tert-Butyl Ether (MTBE)	0.0179	0.0040	mg/Kg wet	0.0200		89.5	70-130				
Methylene Chloride	0.0180	0.010	mg/Kg wet	0.0200		89.9	70-130				
4-Methyl-2-pentanone (MIBK)	0.175	0.020	mg/Kg wet	0.200		87.5	40-160				†
Naphthalene	0.0150	0.0040	mg/Kg wet	0.0200		75.0	70-130				

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B290543 - SW-846 5035											
LCS (B290543-BS1)				Prepared & Analyzed: 09/20/21							
n-Propylbenzene	0.0210	0.0020	mg/Kg wet	0.0200		105	70-130				
Styrene	0.0207	0.0020	mg/Kg wet	0.0200		104	70-130				
1,1,1,2-Tetrachloroethane	0.0225	0.0020	mg/Kg wet	0.0200		113	70-130				
1,1,2,2-Tetrachloroethane	0.0227	0.0010	mg/Kg wet	0.0200		113	70-130				
Tetrachloroethylene	0.0218	0.0020	mg/Kg wet	0.0200		109	70-130				
Tetrahydrofuran	0.0188	0.010	mg/Kg wet	0.0200		94.2	70-130				
Toluene	0.0196	0.0020	mg/Kg wet	0.0200		97.8	70-130				
1,2,3-Trichlorobenzene	0.0178	0.0020	mg/Kg wet	0.0200		88.8	70-130				
1,2,4-Trichlorobenzene	0.0182	0.0020	mg/Kg wet	0.0200		91.1	70-130				
1,1,1-Trichloroethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130				
1,1,2-Trichloroethane	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
Trichloroethylene	0.0203	0.0020	mg/Kg wet	0.0200		102	70-130				
Trichlorofluoromethane (Freon 11)	0.0208	0.010	mg/Kg wet	0.0200		104	70-130				
1,2,3-Trichloropropane	0.0223	0.0020	mg/Kg wet	0.0200		111	70-130				
1,2,4-Trimethylbenzene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130				
1,3,5-Trimethylbenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130				
Vinyl Chloride	0.0182	0.010	mg/Kg wet	0.0200		91.1	70-130				
m+p Xylene	0.0392	0.0040	mg/Kg wet	0.0400		98.0	70-130				
o-Xylene	0.0199	0.0020	mg/Kg wet	0.0200		99.3	70-130				
Surrogate: 1,2-Dichloroethane-d4	*0.0463*		mg/Kg wet	0.0500		92.6	70-130				
Surrogate: Toluene-d8	*0.0484*		mg/Kg wet	0.0500		96.8	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0484*		mg/Kg wet	0.0500		96.8	70-130				
LCS Dup (B290543-BSD1)				Prepared & Analyzed: 09/20/21							
Acetone	0.192	0.10	mg/Kg wet	0.200		96.0	40-160	0.491	20		†
tert-Amyl Methyl Ether (TAME)	0.0170	0.0010	mg/Kg wet	0.0200		85.2	70-130	0.702	20		
Benzene	0.0192	0.0020	mg/Kg wet	0.0200		96.2	70-130	2.57	20		
Bromobenzene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	1.09	20		
Bromochloromethane	0.0213	0.0020	mg/Kg wet	0.0200		106	70-130	1.12	20		
Bromodichloromethane	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	0.197	20		
Bromoform	0.0241	0.0020	mg/Kg wet	0.0200		120	70-130	1.07	20	V-20	
Bromomethane	0.0196	0.010	mg/Kg wet	0.0200		98.2	40-160	6.41	20		†
2-Butanone (MEK)	0.178	0.040	mg/Kg wet	0.200		89.1	40-160	1.27	20		†
n-Butylbenzene	0.0197	0.0020	mg/Kg wet	0.0200		98.7	70-130	3.29	20		
sec-Butylbenzene	0.0202	0.0020	mg/Kg wet	0.0200		101	70-130	3.21	20		
tert-Butylbenzene	0.0199	0.0020	mg/Kg wet	0.0200		99.6	70-130	1.10	20		
tert-Butyl Ethyl Ether (TBEE)	0.0170	0.0010	mg/Kg wet	0.0200		85.2	70-130	0.117	20		
Carbon Disulfide	0.200	0.0060	mg/Kg wet	0.200		100	70-130	3.92	20		
Carbon Tetrachloride	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	4.59	20		
Chlorobenzene	0.0208	0.0020	mg/Kg wet	0.0200		104	70-130	4.42	20		
Chlorodibromomethane	0.0213	0.0010	mg/Kg wet	0.0200		107	70-130	1.67	20		
Chloroethane	0.0196	0.010	mg/Kg wet	0.0200		97.9	70-130	0.615	20		
Chloroform	0.0202	0.0040	mg/Kg wet	0.0200		101	70-130	1.86	20		
Chloromethane	0.0172	0.010	mg/Kg wet	0.0200		86.2	40-160	1.61	20		†
2-Chlorotoluene	0.0205	0.0020	mg/Kg wet	0.0200		102	70-130	6.69	20		
4-Chlorotoluene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	7.09	20		
1,2-Dibromo-3-chloropropane (DBCP)	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	14.9	20		
1,2-Dibromoethane (EDB)	0.0221	0.0010	mg/Kg wet	0.0200		111	70-130	1.35	20		
Dibromomethane	0.0219	0.0020	mg/Kg wet	0.0200		110	70-130	7.97	20		
1,2-Dichlorobenzene	0.0211	0.0020	mg/Kg wet	0.0200		106	70-130	1.72	20		
1,3-Dichlorobenzene	0.0209	0.0020	mg/Kg wet	0.0200		105	70-130	1.99	20		
1,4-Dichlorobenzene	0.0217	0.0020	mg/Kg wet	0.0200		108	70-130	0.735	20		

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B290543 - SW-846 5035											
LCS Dup (B290543-BSD1)				Prepared & Analyzed: 09/20/21							
Dichlorodifluoromethane (Freon 12)	0.0143	0.010	mg/Kg wet	0.0200		71.3	40-160	1.25	20	V-05	†
1,1-Dichloroethane	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	2.68	20		
1,2-Dichloroethane	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	0.795	20		
1,1-Dichloroethylene	0.0187	0.0040	mg/Kg wet	0.0200		93.6	70-130	4.59	20		
cis-1,2-Dichloroethylene	0.0188	0.0020	mg/Kg wet	0.0200		93.9	70-130	1.06	20		
trans-1,2-Dichloroethylene	0.0195	0.0020	mg/Kg wet	0.0200		97.3	70-130	1.73	20		
1,2-Dichloropropane	0.0198	0.0020	mg/Kg wet	0.0200		99.2	70-130	0.402	20		
1,3-Dichloropropane	0.0203	0.0010	mg/Kg wet	0.0200		101	70-130	1.09	20		
2,2-Dichloropropane	0.0185	0.0020	mg/Kg wet	0.0200		92.5	70-130	2.24	20		
1,1-Dichloropropene	0.0191	0.0020	mg/Kg wet	0.0200		95.4	70-130	3.91	20		
cis-1,3-Dichloropropene	0.0207	0.0010	mg/Kg wet	0.0200		103	70-130	1.36	20		
trans-1,3-Dichloropropene	0.0205	0.0010	mg/Kg wet	0.0200		102	70-130	2.27	20		
Diethyl Ether	0.0209	0.010	mg/Kg wet	0.0200		104	70-130	3.12	20		
Diisopropyl Ether (DIPE)	0.0170	0.0010	mg/Kg wet	0.0200		84.9	70-130	0.709	20		
1,4-Dioxane	0.204	0.10	mg/Kg wet	0.200		102	40-160	2.55	20		†
Ethylbenzene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130	2.90	20		
Hexachlorobutadiene	0.0231	0.0020	mg/Kg wet	0.0200		116	70-130	2.27	20	V-20	
2-Hexanone (MBK)	0.174	0.020	mg/Kg wet	0.200		86.8	40-160	2.91	20		†
Isopropylbenzene (Cumene)	0.0216	0.0020	mg/Kg wet	0.0200		108	70-130	0.461	20		
p-Isopropyltoluene (p-Cymene)	0.0201	0.0020	mg/Kg wet	0.0200		100	70-130	1.38	20		
Methyl tert-Butyl Ether (MTBE)	0.0180	0.0040	mg/Kg wet	0.0200		90.1	70-130	0.668	20		
Methylene Chloride	0.0175	0.010	mg/Kg wet	0.0200		87.7	70-130	2.48	20		
4-Methyl-2-pentanone (MIBK)	0.174	0.020	mg/Kg wet	0.200		86.9	40-160	0.780	20		†
Naphthalene	0.0179	0.0040	mg/Kg wet	0.0200		89.3	70-130	17.4	20		
n-Propylbenzene	0.0200	0.0020	mg/Kg wet	0.0200		100	70-130	4.58	20		
Styrene	0.0201	0.0020	mg/Kg wet	0.0200		101	70-130	2.84	20		
1,1,1,2-Tetrachloroethane	0.0220	0.0020	mg/Kg wet	0.0200		110	70-130	2.33	20		
1,1,2,2-Tetrachloroethane	0.0225	0.0010	mg/Kg wet	0.0200		112	70-130	0.975	20		
Tetrachloroethylene	0.0214	0.0020	mg/Kg wet	0.0200		107	70-130	1.67	20		
Tetrahydrofuran	0.0220	0.010	mg/Kg wet	0.0200		110	70-130	15.3	20		
Toluene	0.0190	0.0020	mg/Kg wet	0.0200		95.1	70-130	2.80	20		
1,2,3-Trichlorobenzene	0.0187	0.0020	mg/Kg wet	0.0200		93.3	70-130	4.94	20		
1,2,4-Trichlorobenzene	0.0191	0.0020	mg/Kg wet	0.0200		95.6	70-130	4.82	20		
1,1,1-Trichloroethane	0.0193	0.0020	mg/Kg wet	0.0200		96.4	70-130	4.46	20		
1,1,2-Trichloroethane	0.0198	0.0020	mg/Kg wet	0.0200		98.9	70-130	5.12	20		
Trichloroethylene	0.0204	0.0020	mg/Kg wet	0.0200		102	70-130	0.295	20		
Trichlorofluoromethane (Freon 11)	0.0203	0.010	mg/Kg wet	0.0200		102	70-130	2.14	20		
1,2,3-Trichloropropane	0.0228	0.0020	mg/Kg wet	0.0200		114	70-130	2.48	20		
1,2,4-Trimethylbenzene	0.0195	0.0020	mg/Kg wet	0.0200		97.4	70-130	4.42	20		
1,3,5-Trimethylbenzene	0.0206	0.0020	mg/Kg wet	0.0200		103	70-130	1.16	20		
Vinyl Chloride	0.0173	0.010	mg/Kg wet	0.0200		86.4	70-130	5.30	20		
m+p Xylene	0.0372	0.0040	mg/Kg wet	0.0400		93.1	70-130	5.13	20		
o-Xylene	0.0192	0.0020	mg/Kg wet	0.0200		96.0	70-130	3.38	20		
Surrogate: 1,2-Dichloroethane-d4	*0.0461*		mg/Kg wet	0.0500		92.3	70-130				
Surrogate: Toluene-d8	*0.0492*		mg/Kg wet	0.0500		98.4	70-130				
Surrogate: 4-Bromofluorobenzene	*0.0494*		mg/Kg wet	0.0500		98.8	70-130				

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290486 - SW-846 3546										
Blank (B290486-BLK1)				Prepared: 09/17/21 Analyzed: 09/20/21						
Aroclor-1016	ND	0.020	mg/Kg wet							
Aroclor-1016 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1221	ND	0.020	mg/Kg wet							
Aroclor-1221 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1232	ND	0.020	mg/Kg wet							
Aroclor-1232 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1242	ND	0.020	mg/Kg wet							
Aroclor-1242 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1248	ND	0.020	mg/Kg wet							
Aroclor-1248 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1254	ND	0.020	mg/Kg wet							
Aroclor-1254 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1260	ND	0.020	mg/Kg wet							
Aroclor-1260 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1262	ND	0.020	mg/Kg wet							
Aroclor-1262 [2C]	ND	0.020	mg/Kg wet							
Aroclor-1268	ND	0.020	mg/Kg wet							
Aroclor-1268 [2C]	ND	0.020	mg/Kg wet							
Surrogate: Decachlorobiphenyl	*0.199*		mg/Kg wet	0.200		99.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.179*		mg/Kg wet	0.200		89.6	30-150			
Surrogate: Tetrachloro-m-xylene	*0.192*		mg/Kg wet	0.200		95.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.189*		mg/Kg wet	0.200		94.7	30-150			
LCS (B290486-BS1)				Prepared: 09/17/21 Analyzed: 09/20/21						
Aroclor-1016	0.16	0.020	mg/Kg wet	0.200		80.1	40-140			
Aroclor-1016 [2C]	0.16	0.020	mg/Kg wet	0.200		77.7	40-140			
Aroclor-1260	0.15	0.020	mg/Kg wet	0.200		75.9	40-140			
Aroclor-1260 [2C]	0.14	0.020	mg/Kg wet	0.200		69.1	40-140			
Surrogate: Decachlorobiphenyl	*0.181*		mg/Kg wet	0.200		90.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.163*		mg/Kg wet	0.200		81.4	30-150			
Surrogate: Tetrachloro-m-xylene	*0.172*		mg/Kg wet	0.200		85.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.169*		mg/Kg wet	0.200		84.6	30-150			
LCS Dup (B290486-BSD1)				Prepared: 09/17/21 Analyzed: 09/20/21						
Aroclor-1016	0.18	0.020	mg/Kg wet	0.200		87.9	40-140	9.25	30	
Aroclor-1016 [2C]	0.17	0.020	mg/Kg wet	0.200		85.1	40-140	9.05	30	
Aroclor-1260	0.17	0.020	mg/Kg wet	0.200		83.5	40-140	9.57	30	
Aroclor-1260 [2C]	0.15	0.020	mg/Kg wet	0.200		75.7	40-140	9.11	30	
Surrogate: Decachlorobiphenyl	*0.197*		mg/Kg wet	0.200		98.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.177*		mg/Kg wet	0.200		88.5	30-150			
Surrogate: Tetrachloro-m-xylene	*0.188*		mg/Kg wet	0.200		94.1	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.185*		mg/Kg wet	0.200		92.6	30-150			

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290486 - SW-846 3546										
Matrix Spike (B290486-MS1)	**Source: 21I0921-01**			Prepared: 09/17/21 Analyzed: 09/22/21						
Aroclor-1016	0.14	0.089	mg/Kg dry	0.224	ND	63.9	40-140			
Aroclor-1016 [2C]	0.14	0.089	mg/Kg dry	0.224	ND	62.4	40-140			
Aroclor-1260	0.14	0.089	mg/Kg dry	0.224	ND	61.0	40-140			
Aroclor-1260 [2C]	0.13	0.089	mg/Kg dry	0.224	ND	57.5	40-140			
Surrogate: Decachlorobiphenyl	*0.146*		mg/Kg dry	0.224		65.1	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.136*		mg/Kg dry	0.224		60.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.123*		mg/Kg dry	0.224		54.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.124*		mg/Kg dry	0.224		55.6	30-150			
Matrix Spike Dup (B290486-MSD1)	**Source: 21I0921-01**			Prepared: 09/17/21 Analyzed: 09/22/21						
Aroclor-1016	0.16	0.089	mg/Kg dry	0.224	ND	73.5	40-140	14.0	30	
Aroclor-1016 [2C]	0.16	0.089	mg/Kg dry	0.224	ND	73.1	40-140	15.8	30	
Aroclor-1260	0.16	0.089	mg/Kg dry	0.224	ND	72.0	40-140	16.6	30	
Aroclor-1260 [2C]	0.15	0.089	mg/Kg dry	0.224	ND	67.9	40-140	16.6	30	
Surrogate: Decachlorobiphenyl	*0.175*		mg/Kg dry	0.224		78.3	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.163*		mg/Kg dry	0.224		72.9	30-150			
Surrogate: Tetrachloro-m-xylene	*0.147*		mg/Kg dry	0.224		65.8	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*0.149*		mg/Kg dry	0.224		66.6	30-150			

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290504 - SW-846 3546										
Blank (B290504-BLK1)				Prepared: 09/18/21 Analyzed: 09/21/21						
C9-C18 Aliphatics	ND	10	mg/Kg wet							
C19-C36 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C11-C22 Aromatics	ND	10	mg/Kg wet							
C11-C22 Aromatics	ND	10	mg/Kg wet							
Acenaphthene	ND	0.10	mg/Kg wet							
Acenaphthylene	ND	0.10	mg/Kg wet							
Anthracene	ND	0.10	mg/Kg wet							
Benzo(a)anthracene	ND	0.10	mg/Kg wet							
Benzo(a)pyrene	ND	0.10	mg/Kg wet							
Benzo(b)fluoranthene	ND	0.10	mg/Kg wet							
Benzo(g,h,i)perylene	ND	0.10	mg/Kg wet							
Benzo(k)fluoranthene	ND	0.10	mg/Kg wet							
Chrysene	ND	0.10	mg/Kg wet							
Dibenz(a,h)anthracene	ND	0.10	mg/Kg wet							
Fluoranthene	ND	0.10	mg/Kg wet							
Fluorene	ND	0.10	mg/Kg wet							
Indeno(1,2,3-cd)pyrene	ND	0.10	mg/Kg wet							
2-Methylnaphthalene	ND	0.10	mg/Kg wet							
Naphthalene	ND	0.10	mg/Kg wet							
Phenanthrene	ND	0.10	mg/Kg wet							
Pyrene	ND	0.10	mg/Kg wet							
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet							
Surrogate: Chlorooctadecane (COD)	*3.20*		mg/Kg wet	5.00		63.9	40-140			
Surrogate: o-Terphenyl (OTP)	*3.31*		mg/Kg wet	5.00		66.1	40-140			
Surrogate: 2-Bromonaphthalene	*4.47*		mg/Kg wet	5.00		89.4	40-140			
Surrogate: 2-Fluorobiphenyl	*4.60*		mg/Kg wet	5.00		92.0	40-140			
LCS (B290504-BS1)				Prepared: 09/18/21 Analyzed: 09/21/21						
C9-C18 Aliphatics	20.6	10	mg/Kg wet	30.0		68.5	40-140			
C19-C36 Aliphatics	34.1	10	mg/Kg wet	40.0		85.2	40-140			
Unadjusted C11-C22 Aromatics	74.3	10	mg/Kg wet	85.0		87.4	40-140			
Acenaphthene	3.66	0.10	mg/Kg wet	5.00		73.1	40-140			
Acenaphthylene	3.45	0.10	mg/Kg wet	5.00		69.0	40-140			
Anthracene	3.94	0.10	mg/Kg wet	5.00		78.8	40-140			
Benzo(a)anthracene	4.38	0.10	mg/Kg wet	5.00		87.6	40-140			
Benzo(a)pyrene	4.37	0.10	mg/Kg wet	5.00		87.4	40-140			
Benzo(b)fluoranthene	4.13	0.10	mg/Kg wet	5.00		82.6	40-140			
Benzo(g,h,i)perylene	4.02	0.10	mg/Kg wet	5.00		80.5	40-140			
Benzo(k)fluoranthene	3.97	0.10	mg/Kg wet	5.00		79.3	40-140			
Chrysene	3.98	0.10	mg/Kg wet	5.00		79.6	40-140			
Dibenz(a,h)anthracene	4.27	0.10	mg/Kg wet	5.00		85.4	40-140			
Fluoranthene	3.88	0.10	mg/Kg wet	5.00		77.7	40-140			
Fluorene	3.74	0.10	mg/Kg wet	5.00		74.8	40-140			
Indeno(1,2,3-cd)pyrene	4.01	0.10	mg/Kg wet	5.00		80.3	40-140			
2-Methylnaphthalene	3.42	0.10	mg/Kg wet	5.00		68.4	40-140			
Naphthalene	3.32	0.10	mg/Kg wet	5.00		66.4	40-140			
Phenanthrene	3.98	0.10	mg/Kg wet	5.00		79.7	40-140			
Pyrene	3.99	0.10	mg/Kg wet	5.00		79.8	40-140			
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*3.52*		mg/Kg wet	5.00		70.3	40-140			

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290504 - SW-846 3546										
LCS (B290504-BS1)				Prepared: 09/18/21 Analyzed: 09/21/21						
Surrogate: o-Terphenyl (OTP)	*3.42*		mg/Kg wet	5.00		68.4	40-140			
Surrogate: 2-Bromonaphthalene	*4.67*		mg/Kg wet	5.00		93.4	40-140			
Surrogate: 2-Fluorobiphenyl	*4.67*		mg/Kg wet	5.00		93.3	40-140			
LCS Dup (B290504-BSD1)				Prepared: 09/18/21 Analyzed: 09/21/21						
C9-C18 Aliphatics	17.8	10	mg/Kg wet	30.0		59.4	40-140	14.2	25	
C19-C36 Aliphatics	28.2	10	mg/Kg wet	40.0		70.5	40-140	18.8	25	
Unadjusted C11-C22 Aromatics	65.5	10	mg/Kg wet	85.0		77.1	40-140	12.5	25	
Acenaphthene	3.32	0.10	mg/Kg wet	5.00		66.5	40-140	9.51	25	
Acenaphthylene	3.18	0.10	mg/Kg wet	5.00		63.5	40-140	8.25	25	
Anthracene	3.45	0.10	mg/Kg wet	5.00		69.1	40-140	13.2	25	
Benzo(a)anthracene	3.82	0.10	mg/Kg wet	5.00		76.4	40-140	13.7	25	
Benzo(a)pyrene	3.78	0.10	mg/Kg wet	5.00		75.6	40-140	14.5	25	
Benzo(b)fluoranthene	3.58	0.10	mg/Kg wet	5.00		71.5	40-140	14.4	25	
Benzo(g,h,i)perylene	3.44	0.10	mg/Kg wet	5.00		68.7	40-140	15.7	25	
Benzo(k)fluoranthene	3.44	0.10	mg/Kg wet	5.00		68.9	40-140	14.1	25	
Chrysene	3.47	0.10	mg/Kg wet	5.00		69.4	40-140	13.6	25	
Dibenz(a,h)anthracene	3.66	0.10	mg/Kg wet	5.00		73.2	40-140	15.3	25	
Fluoranthene	3.40	0.10	mg/Kg wet	5.00		68.0	40-140	13.3	25	
Fluorene	3.31	0.10	mg/Kg wet	5.00		66.2	40-140	12.2	25	
Indeno(1,2,3-cd)pyrene	3.44	0.10	mg/Kg wet	5.00		68.8	40-140	15.4	25	
2-Methylnaphthalene	3.28	0.10	mg/Kg wet	5.00		65.5	40-140	4.32	25	
Naphthalene	3.25	0.10	mg/Kg wet	5.00		65.0	40-140	2.15	25	
Phenanthrene	3.49	0.10	mg/Kg wet	5.00		69.8	40-140	13.2	25	
Pyrene	3.50	0.10	mg/Kg wet	5.00		69.9	40-140	13.2	25	
Naphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
2-Methylnaphthalene-aliphatic fraction	ND	0.10	mg/Kg wet	5.00			0-5			
Surrogate: Chlorooctadecane (COD)	*2.84*		mg/Kg wet	5.00		56.8	40-140			
Surrogate: o-Terphenyl (OTP)	*2.95*		mg/Kg wet	5.00		59.1	40-140			
Surrogate: 2-Bromonaphthalene	*4.38*		mg/Kg wet	5.00		87.7	40-140			
Surrogate: 2-Fluorobiphenyl	*4.57*		mg/Kg wet	5.00		91.3	40-140			
Matrix Spike (B290504-MS1)	**Source: 21I0921-01**			Prepared: 09/18/21 Analyzed: 09/22/21						
C9-C18 Aliphatics	24.2	11	mg/Kg dry	33.4	ND	72.6	40-140			
C19-C36 Aliphatics	37.6	11	mg/Kg dry	44.5	ND	84.5	40-140			
Unadjusted C11-C22 Aromatics	75.6	11	mg/Kg dry	94.6	ND	80.0	40-140			
Acenaphthene	3.91	0.11	mg/Kg dry	5.56	ND	70.4	40-140			
Acenaphthylene	3.74	0.11	mg/Kg dry	5.56	ND	67.2	40-140			
Anthracene	4.00	0.11	mg/Kg dry	5.56	ND	71.8	40-140			
Benzo(a)anthracene	4.37	0.11	mg/Kg dry	5.56	ND	78.6	40-140			
Benzo(a)pyrene	4.41	0.11	mg/Kg dry	5.56	ND	79.2	40-140			
Benzo(b)fluoranthene	4.16	0.11	mg/Kg dry	5.56	ND	74.7	40-140			
Benzo(g,h,i)perylene	4.06	0.11	mg/Kg dry	5.56	ND	73.1	40-140			
Benzo(k)fluoranthene	3.96	0.11	mg/Kg dry	5.56	ND	71.3	40-140			
Chrysene	3.98	0.11	mg/Kg dry	5.56	ND	71.5	40-140			
Dibenz(a,h)anthracene	4.27	0.11	mg/Kg dry	5.56	ND	76.8	40-140			
Fluoranthene	3.91	0.11	mg/Kg dry	5.56	ND	70.3	40-140			
Fluorene	3.89	0.11	mg/Kg dry	5.56	ND	69.9	40-140			
Indeno(1,2,3-cd)pyrene	4.02	0.11	mg/Kg dry	5.56	ND	72.2	40-140			
2-Methylnaphthalene	3.88	0.11	mg/Kg dry	5.56	ND	69.8	40-140			
Naphthalene	3.91	0.11	mg/Kg dry	5.56	ND	70.3	40-140			
Phenanthrene	4.06	0.11	mg/Kg dry	5.56	ND	73.0	40-140			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - EPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290504 - SW-846 3546										
Matrix Spike (B290504-MS1)	**Source: 21I0921-01**			Prepared: 09/18/21 Analyzed: 09/22/21						
Pyrene	4.02	0.11	mg/Kg dry	5.56	ND	72.2	40-140			
Surrogate: Chlorooctadecane (COD)	*3.74*		mg/Kg dry	5.56		67.3	40-140			
Surrogate: o-Terphenyl (OTP)	*3.39*		mg/Kg dry	5.56		61.0	40-140			
Surrogate: 2-Bromonaphthalene	*4.99*		mg/Kg dry	5.56		89.7	40-140			
Surrogate: 2-Fluorobiphenyl	*5.09*		mg/Kg dry	5.56		91.4	40-140			
Matrix Spike Dup (B290504-MSD1)	**Source: 21I0921-01**			Prepared: 09/18/21 Analyzed: 09/22/21						
C9-C18 Aliphatics	23.9	11	mg/Kg dry	33.4	ND	71.5	40-140	1.48	50	
C19-C36 Aliphatics	39.2	11	mg/Kg dry	44.5	ND	88.1	40-140	4.14	50	
Unadjusted C11-C22 Aromatics	85.0	11	mg/Kg dry	94.6	ND	89.9	40-140	11.7	50	
Acenaphthene	4.14	0.11	mg/Kg dry	5.56	ND	74.5	40-140	5.69	50	
Acenaphthylene	3.92	0.11	mg/Kg dry	5.56	ND	70.5	40-140	4.77	50	
Anthracene	4.40	0.11	mg/Kg dry	5.56	ND	79.1	40-140	9.64	50	
Benzo(a)anthracene	4.89	0.11	mg/Kg dry	5.56	ND	87.9	40-140	11.1	50	
Benzo(a)pyrene	4.82	0.11	mg/Kg dry	5.56	ND	86.7	40-140	9.08	50	
Benzo(b)fluoranthene	4.59	0.11	mg/Kg dry	5.56	ND	82.5	40-140	9.97	50	
Benzo(g,h,i)perylene	4.42	0.11	mg/Kg dry	5.56	ND	79.5	40-140	8.48	50	
Benzo(k)fluoranthene	4.35	0.11	mg/Kg dry	5.56	ND	78.1	40-140	9.19	50	
Chrysene	4.39	0.11	mg/Kg dry	5.56	ND	78.8	40-140	9.77	50	
Dibenz(a,h)anthracene	4.61	0.11	mg/Kg dry	5.56	ND	82.9	40-140	7.61	50	
Fluoranthene	4.40	0.11	mg/Kg dry	5.56	ND	79.0	40-140	11.7	50	
Fluorene	4.21	0.11	mg/Kg dry	5.56	ND	75.7	40-140	7.93	50	
Indeno(1,2,3-cd)pyrene	4.40	0.11	mg/Kg dry	5.56	ND	79.1	40-140	9.06	50	
2-Methylnaphthalene	3.90	0.11	mg/Kg dry	5.56	ND	70.0	40-140	0.266	50	
Naphthalene	3.80	0.11	mg/Kg dry	5.56	ND	68.2	40-140	2.94	50	
Phenanthrene	4.50	0.11	mg/Kg dry	5.56	ND	80.9	40-140	10.2	50	
Pyrene	4.52	0.11	mg/Kg dry	5.56	ND	81.3	40-140	11.9	50	
Surrogate: Chlorooctadecane (COD)	*3.89*		mg/Kg dry	5.56		70.0	40-140			
Surrogate: o-Terphenyl (OTP)	*3.66*		mg/Kg dry	5.56		65.9	40-140			
Surrogate: 2-Bromonaphthalene	*4.94*		mg/Kg dry	5.56		88.8	40-140			
Surrogate: 2-Fluorobiphenyl	*5.19*		mg/Kg dry	5.56		93.2	40-140			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290675 - MA VPH										
Blank (B290675-BLK1)				Prepared & Analyzed: 09/21/21						
Unadjusted C5-C8 Aliphatics	ND	10	mg/Kg wet							
C5-C8 Aliphatics	ND	10	mg/Kg wet							
Unadjusted C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C12 Aliphatics	ND	10	mg/Kg wet							
C9-C10 Aromatics	ND	10	mg/Kg wet							
Benzene	ND	0.050	mg/Kg wet							
Butylcyclohexane	ND	0.050	mg/Kg wet							
Decane	ND	0.050	mg/Kg wet							
Ethylbenzene	ND	0.050	mg/Kg wet							
Methyl tert-Butyl Ether (MTBE)	ND	0.050	mg/Kg wet							
2-Methylpentane	ND	0.050	mg/Kg wet							
Naphthalene	ND	0.25	mg/Kg wet							
Nonane	ND	0.050	mg/Kg wet							
Pentane	ND	0.050	mg/Kg wet							
Toluene	ND	0.050	mg/Kg wet							
1,2,4-Trimethylbenzene	ND	0.050	mg/Kg wet							
2,2,4-Trimethylpentane	ND	0.050	mg/Kg wet							
m+p Xylene	ND	0.10	mg/Kg wet							
o-Xylene	ND	0.050	mg/Kg wet							
Surrogate: 2,5-Dibromotoluene (FID)	*37.7*		µg/L	40.0		94.2	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*38.4*		µg/L	40.0		96.0	70-130			
LCS (B290675-BS1)				Prepared & Analyzed: 09/21/21						
Benzene	0.0468	0.0010	mg/Kg wet	0.0500		93.6	70-130			
Butylcyclohexane	0.0600	0.0010	mg/Kg wet	0.0500		120	70-130			
Decane	0.0447	0.0010	mg/Kg wet	0.0500		89.3	70-130			
Ethylbenzene	0.0466	0.0010	mg/Kg wet	0.0500		93.2	70-130			
Methyl tert-Butyl Ether (MTBE)	0.0462	0.0010	mg/Kg wet	0.0500		92.5	70-130			
2-Methylpentane	0.0439	0.0010	mg/Kg wet	0.0500		87.9	70-130			
Naphthalene	0.0536	0.0050	mg/Kg wet	0.0500		107	70-130			
Nonane	0.0600	0.0010	mg/Kg wet	0.0500		120	30-130			
Pentane	0.0464	0.0010	mg/Kg wet	0.0500		92.7	70-130			
Toluene	0.0463	0.0010	mg/Kg wet	0.0500		92.5	70-130			
1,2,4-Trimethylbenzene	0.0431	0.0010	mg/Kg wet	0.0500		86.3	70-130			
2,2,4-Trimethylpentane	0.0403	0.0010	mg/Kg wet	0.0500		80.7	70-130			
m+p Xylene	0.0922	0.0020	mg/Kg wet	0.100		92.2	70-130			
o-Xylene	0.0468	0.0010	mg/Kg wet	0.0500		93.6	70-130			
Surrogate: 2,5-Dibromotoluene (FID)	*37.6*		µg/L	40.0		93.9	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*40.3*		µg/L	40.0		101	70-130			
LCS Dup (B290675-BSD1)				Prepared & Analyzed: 09/21/21						
Benzene	0.0456	0.0010	mg/Kg wet	0.0500		91.1	70-130	2.73	25	
Butylcyclohexane	0.0588	0.0010	mg/Kg wet	0.0500		118	70-130	2.17	25	
Decane	0.0430	0.0010	mg/Kg wet	0.0500		86.1	70-130	3.70	25	
Ethylbenzene	0.0452	0.0010	mg/Kg wet	0.0500		90.5	70-130	3.03	25	
Methyl tert-Butyl Ether (MTBE)	0.0467	0.0010	mg/Kg wet	0.0500		93.3	70-130	0.922	25	
2-Methylpentane	0.0410	0.0010	mg/Kg wet	0.0500		81.9	70-130	7.02	25	
Naphthalene	0.0543	0.0050	mg/Kg wet	0.0500		109	70-130	1.40	25	
Nonane	0.0586	0.0010	mg/Kg wet	0.0500		117	30-130	2.37	25	
Pentane	0.0426	0.0010	mg/Kg wet	0.0500		85.3	70-130	8.34	25	
Toluene	0.0450	0.0010	mg/Kg wet	0.0500		90.1	70-130	2.72	25	
1,2,4-Trimethylbenzene	0.0424	0.0010	mg/Kg wet	0.0500		84.9	70-130	1.68	25	

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Petroleum Hydrocarbons Analyses - VPH - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290675 - MA VPH										
LCS Dup (B290675-BSD1)				Prepared & Analyzed: 09/21/21						
2,2,4-Trimethylpentane	0.0371	0.0010	mg/Kg wet	0.0500		74.2	70-130	8.38	25	
m+p Xylene	0.0898	0.0020	mg/Kg wet	0.100		89.8	70-130	2.68	25	
o-Xylene	0.0459	0.0010	mg/Kg wet	0.0500		91.9	70-130	1.81	25	
Surrogate: 2,5-Dibromotoluene (FID)	*41.8*		µg/L	40.0		104	70-130			
Surrogate: 2,5-Dibromotoluene (PID)	*41.7*		µg/L	40.0		104	70-130			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290709 - % Solids										
Duplicate (B290709-DUP4)	**Source: 21I0921-11**		Prepared: 09/21/21 Analyzed: 09/22/21							
% Solids	82.0		% Wt		83.2			1.39	5	

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B290486-BS1

Date(s) Analyzed: 09/20/2021 09/20/2021

Instrument ID (1): ECD5

Instrument ID (2): ECD5

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.16	
	2	0.000	0.000	0.000	0.16	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.15	
	2	0.000	0.000	0.000	0.14	6.9

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B290486-BSD1 Date(s) Analyzed: 09/20/2021 09/20/2021

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.18	
	2	0.000	0.000	0.000	0.17	5.7
Aroclor-1260	1	0.000	0.000	0.000	0.17	
	2	0.000	0.000	0.000	0.15	12.5

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike

Lab Sample ID: B290486-MS1 Date(s) Analyzed: 09/22/2021 09/22/2021

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.14	
	2	0.000	0.000	0.000	0.14	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.14	
	2	0.000	0.000	0.000	0.13	7.4

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

Matrix Spike Dup

Lab Sample ID: B290486-MSD1 Date(s) Analyzed: 09/22/2021 09/22/2021

Instrument ID (1): ECD5 Instrument ID (2): ECD5

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.16	
	2	0.000	0.000	0.000	0.16	0.0
Aroclor-1260	1	0.000	0.000	0.000	0.16	
	2	0.000	0.000	0.000	0.15	6.5

con-test® A Pace Analytical® Laboratory

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

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
L-07	Either laboratory fortified blank/laboratory control sample or duplicate recovery is outside of control limits, but the other is within limits. RPD between the two LFB/LCS results is within method specified criteria.
O-01	Soil/methanol ratio does not meet method specifications. Excess amount of soil. Sample was completely covered with methanol, but with less than the method-specified amount.
O-32	A dilution was performed as part of the standard analytical procedure.
RL-05	Elevated reporting limit due to high concentration of target compounds. MA CAM reporting limit not met.
S-15	Surrogate recovery outside of control limits due to suspected sample matrix interference. Chromatogram(s) is attached.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-16	Response factor is less than method specified minimum acceptable value. Reduced precision and accuracy may be associated with reported result.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

con-test®
A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
MADEP EPH rev 2.1 in Soil	
C9-C18 Aliphatics	CT,NC,ME,NH-P
C19-C36 Aliphatics	CT,NC,ME,NH-P
Unadjusted C11-C22 Aromatics	CT,NC,ME,NH-P
C11-C22 Aromatics	CT,NC,ME,NH-P
Acenaphthene	CT,NC,ME,NH-P
Acenaphthylene	CT,NC,ME,NH-P
Anthracene	CT,NC,ME,NH-P
Benzo(a)anthracene	CT,NC,ME,NH-P
Benzo(a)pyrene	CT,NC,ME,NH-P
Benzo(b)fluoranthene	CT,NC,ME,NH-P
Benzo(g,h,i)perylene	CT,NC,ME,NH-P
Benzo(k)fluoranthene	CT,NC,ME,NH-P
Chrysene	CT,NC,ME,NH-P
Dibenz(a,h)anthracene	CT,NC,ME,NH-P
Fluoranthene	CT,NC,ME,NH-P
Fluorene	CT,NC,ME
Indeno(1,2,3-cd)pyrene	CT,NC,ME,NH-P
2-Methylnaphthalene	CT,NC
Naphthalene	CT,NC,ME,NH-P
Phenanthrene	CT,NC,ME,NH-P
Pyrene	CT,NC,ME,NH-P
MADEP-VPH-Feb 2018 Rev 2.1 in Soil	
Unadjusted C5-C8 Aliphatics	CT,NC,ME,NH-P
C5-C8 Aliphatics	CT,NC,ME,NH-P
Unadjusted C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C12 Aliphatics	CT,NC,ME,NH-P
C9-C10 Aromatics	CT,NC,ME,NH-P
Benzene	CT,NC,ME,NH-P
Ethylbenzene	CT,NC,ME,NH-P
Methyl tert-Butyl Ether (MTBE)	CT,NC,ME,NH-P
Naphthalene	CT,NC,ME,NH-P
Toluene	CT,NC,ME,NH-P
m+p Xylene	CT,NC,ME,NH-P
o-Xylene	CT,NC,ME,NH-P
SW-846 8082A in Soil	
Aroclor-1016	CT,NH,NY,NC,ME,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254	CT,NH,NY,NC,ME,VA,PA

con-test®
A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8082A in Soil	
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1262	NH,NY,NC,ME,VA,PA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA,PA
Aroclor-1268	NH,NY,NC,ME,VA,PA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA,PA
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1262	NH,NY,NC,ME,VA,PA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA,PA
Aroclor-1268	NH,NY,NC,ME,VA,PA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA,PA
SW-846 8260C-D in Soil	
Acetone	CT,NH,NY,ME
Acetone	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Benzene	CT,NH,NY,ME
Bromobenzene	NH,NY,ME
Bromobenzene	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromochloromethane	NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromodichloromethane	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromoform	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
Bromomethane	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
2-Butanone (MEK)	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
n-Butylbenzene	CT,NH,NY,ME
sec-Butylbenzene	CT,NH,NY,ME

con-test® A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
sec-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
tert-Butylbenzene	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Disulfide	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Carbon Tetrachloride	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorobenzene	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chlorodibromomethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroethane	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloroform	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
Chloromethane	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
2-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
4-Chlorotoluene	CT,NH,NY,ME
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromo-3-chloropropane (DBCP)	NY
1,2-Dibromoethane (EDB)	NY
1,2-Dibromoethane (EDB)	NY
Dibromomethane	NH,NY,ME
Dibromomethane	NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,2-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,3-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
1,4-Dichlorobenzene	CT,NH,NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
Dichlorodifluoromethane (Freon 12)	NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,2-Dichloroethane	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
1,1-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
cis-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
trans-1,2-Dichloroethylene	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME
1,2-Dichloropropane	CT,NH,NY,ME

con-test®
A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
1,3-Dichloropropane	NH,NY,ME
1,3-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
2,2-Dichloropropane	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
1,1-Dichloropropene	NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
cis-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
trans-1,3-Dichloropropene	CT,NH,NY,ME
1,4-Dioxane	NY
Ethylbenzene	CT,NH,NY,ME
Ethylbenzene	CT,NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
Hexachlorobutadiene	NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
2-Hexanone (MBK)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
Isopropylbenzene (Cumene)	CT,NH,NY,ME
p-Isopropyltoluene (p-Cymene)	NH,NY
p-Isopropyltoluene (p-Cymene)	NH,NY
Methyl tert-Butyl Ether (MTBE)	NY
Methyl tert-Butyl Ether (MTBE)	NH,NY
Methylene Chloride	CT,NH,NY,ME
Methylene Chloride	CT,NH,NY,ME
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
4-Methyl-2-pentanone (MIBK)	CT,NH,NY
Naphthalene	NH,NY,ME
Naphthalene	NH,NY,ME
n-Propylbenzene	NH,NY
n-Propylbenzene	NH,NY
Styrene	CT,NH,NY,ME
Styrene	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,1,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
1,1,2,2-Tetrachloroethane	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Tetrachloroethylene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
Toluene	CT,NH,NY,ME
1,2,3-Trichlorobenzene	ME
1,2,3-Trichlorobenzene	NY
1,2,4-Trichlorobenzene	NH,NY,ME
1,2,4-Trichlorobenzene	NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME
1,1,1-Trichloroethane	CT,NH,NY,ME

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Soil	
1,1,2-Trichloroethane	CT,NH,NY,ME
1,1,2-Trichloroethane	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichloroethylene	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
Trichlorofluoromethane (Freon 11)	CT,NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,3-Trichloropropane	NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,2,4-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
1,3,5-Trimethylbenzene	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
Vinyl Chloride	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
m+p Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME
o-Xylene	CT,NH,NY,ME

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21I0921

Pace Analytical®
Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name: OTO
Address: 293 Bridge St
Phone: 413-788-6282
Project Name: Cole Leverett
Project Location: Shutesbury
Project Number: 2060-02-01
Project Manager: Mark O'Malley
Pace Quote Name/Number: —
Invoice Recipient: OTO
Sampled By: E. Escobar

Requested Turnaround Time: 7-Day ☐ 10-Day ☐ PFAS 10-Day (std) ☐ Due Date: 5 day
Rush-Approval Required: 1-Day ☐ 3-Day ☐ 2-Day ☐ 4-Day ☐
Dissolved Metals Samples: ○ Field Filtered ○ Lab to Filter
Orthophosphate Samples: ○ Field Filtered ○ Lab to Filter
Data Delivery: Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: omalley@oto-env.com
Fax To #: eescobar@oto-env.com

PCB ONLY
SOXHLET ●
NON SOXHLET ☒

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	Ade (I)	[struck]	VOC (M)	PCB (I)
1	B-1 (5-7)	9/16	0830	G	S	U	3	1				X		X	X
2	B-2 (1-3)	↓	0900	G	S	U		1				X			X
3	B-3 (5-7)	↓	0930	G	S	U	3	1				X		X	X
4	B-4 (3-5)	↓	1000	G	S	U		1				X			X
5	B-5 (5-7)	↓	1030	G	S	U	3	1				X		X	X
6	B-6 (3-5)	↓	1100	G	S	U		1				X			X
7	B-7 (0-1)	↓	1130	G	S	U		1				X			X
8	B-8 (1-3)	↓	1200	G	S	U		1				X			X

Relinquished/Received	Date/Time
Relinquished by: (signature) [signature]	9/16/21
Received by: (signature) Jon Crofters 1:45	9.17.21
Relinquished by: (signature) Jon Crofters 2:15	9.17.21
Received by: (signature) [signature] 2.8	9/17 1415
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA: GW-1
CT:
Other:

Special Requirements
☒ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

² Preservation Code
Courier Use Only
Total Number Of:
VIALS ___
GLASS 11
PLASTIC ___
BACTERIA ___
ENCORE ___

Glassware in the fridge? Y / N (Y circled)
Glassware in freezer? Y / N (N circled)
Prepackaged Cooler? Y / N (N circled)

*Pace Analytical is not responsible for missing samples from prepacked coolers

¹ Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

² Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

21I0921

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405
Access COC's and Support Requests

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Company Name: OTO
Address: 293 Bridge
Phone: 413-788-16222
Project Name: 106 Leverett
Project Location: Shutesbury
Project Number: 2060-02-01
Project Manager: Mark O'Malley
Pace Quote Name/Number: —
Invoice Recipient: OTO
Sampled By: E. Escobar

Requested Turnaround Time:
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☐ Due Date: 5-day

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

Data Delivery:
Format: PDF ☒ EXCEL ☒
Other:
CLP Like Data Pkg Required: ☐
Email To: omalley@oto-env.com
Fax To #: eescobar@oto-env.com

Dissolved Metals Samples:
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples:
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☒

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	VPH	EPH	PCB	VOC
9	B-9(0-1)	9/16	1230	G	S	U		1						X	
10	B-9(8-10)	↓	1300	G	S	U	1	1				X		X	X
11	B-10(1-3)	↓	1200	G	S	U	3	1					X	X	X

[2] Preservation Code

Courier Use Only
Total Number Of:
VIALS
GLASS 2
PLASTIC
BACTERIA
ENCORE

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

[1] Matrix Codes:
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] Preservation Codes:
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

Relinquished by: (signature)	Date/Time:
	9/16/21
Received by: (signature) Jon Crofters 1:45	1.17.21
Relinquished by: (signature) Jon Crofters 2:15	9.17.21
Received by: (signature) 2.8	9/17 1415
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements:
MA
GW-1
GT
Other

Specific Requirements:
☒ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

Project Entity:
Government ☐ Municipality ☐ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other:
☐ Chromatogram
☐ AIHA-LAP,LLC

Lab Comments:

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. Th Chain of Custody is a legal document that must be complete and accurate and is used to determine wh analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pa Analytical values your partnership on each project and will try to assist with missing information, but w not be held accountable.

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client OTO

Received By CR Date 9/17/21 Time 1415

How were the samples received? In Cooler T No Cooler ____ On Ice T No Ice ____ Direct from Sampling ____ Ambient ____ Melted Ice ____

Were samples within Temperature? 2-6°C T By Gun # 2 Actual Temp - 2.8 By Blank # ____ Actual Temp - ____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Project T Analysis T ID's T Sampler Name T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? ____

Are there Rushes? F Who was notified? ____

Are there Short Holds? F Who was notified? ____

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? NA Acid ____ Base ____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	11
Meoh-	5	250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-	8	Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

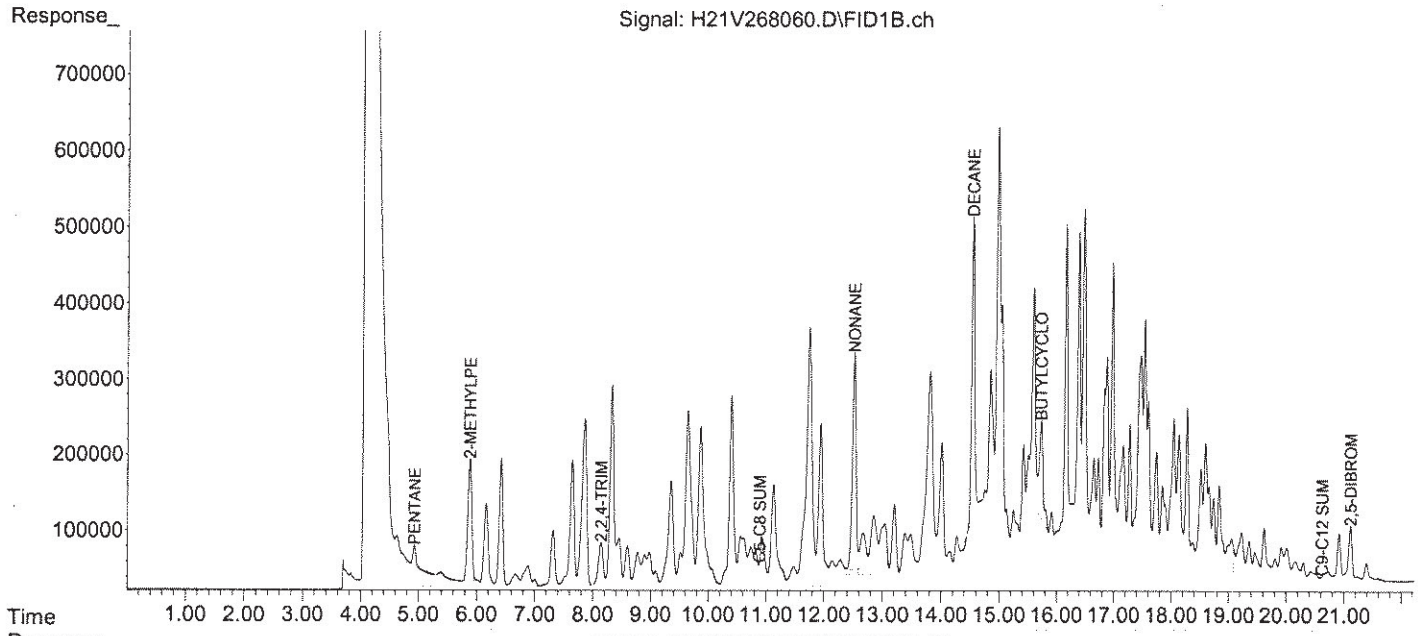
Comments:

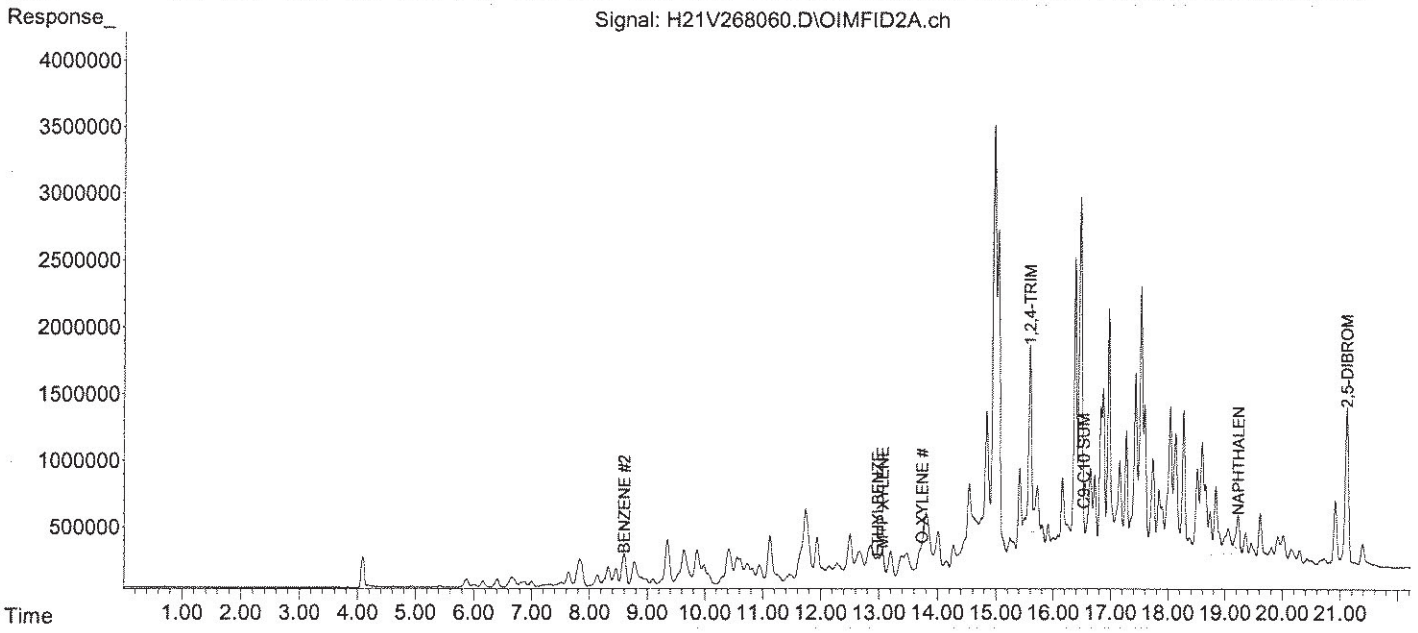
Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\data\092021\
Data File : H21V268060.D
Signal(s) : Signal #1: FID1B.ch Signal #2: OIMFID2A.ch
Acq On : 21 Sep 2021 07:10 pm
Operator :
Sample : 21i0921-10 @ 100x meoh Inst : VPHGC3
Misc :
ALS Vial : 19 Sample Multiplier: 1

Integration File signal 1: events.e
Integration File signal 2: events2.e
Quant Time: Sep 22 09:03:12 2021
Quant Method : C:\msdchem\1\methods\VN20421.M
Quant Title : VPHNEW
QLast Update : Mon Sep 20 15:42:15 2021
Response via : Initial Calibration
Integrator: ChemStation

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :





MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test, a Pace Analytical Laboratory	Project #: 21I0921
Project Location: Shutesbury, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

21I0921-01 thru 21I0921-11

Matrices: Soil

CAM Protocol (check all that below)

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

Affirmative response to Questions A throughF 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	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
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).	☑ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below 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	☑ No[1]

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

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

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

Signature: Lisa Worthington Position: Technical Representative

Printed Name: Lisa A. Worthington Date: 09/23/21

con-test®
A Pace Analytical® Laboratory

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

September 20, 2021

Mark O'Malley
OTO Associates
293 Bridge St. Suite 500
Springfield, MA 01103

Project Location: Shutesbury, MA
Client Job Number:
Project Number: 2060-02-01
Laboratory Work Order Number: 21I0388

Enclosed are results of analyses for samples received by the laboratory on September 9, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jessica L. Hoffman
Project Manager

Table of Contents

Table of Contents (continued)

con-test® A Pace Analytical® Laboratory

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

OTO Associates
293 Bridge St. Suite 500
Springfield, MA 01103
ATTN: Mark O'Malley

REPORT DATE: 9/20/2021

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 2060-02-01

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21I0388

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

PROJECT LOCATION: Shutesbury, MA

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-2D	21I0388-01	Ground Water		EPA 180.1	
				EPA 300.0	
				EPA 524.2	
				EPA 537.1	
				SM 9223B - COLILERT	
				SM21-23 2120B	
				SM21-23 4500 H B	
				SW-846 6010	
				SW-846 6010D	
				SW-846 8082A	

con-test®
A Pace Analytical® Laboratory

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

CASE NARRATIVE SUMMARY

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

SM 9223B - COLILERT

Qualifications:

H-03

Sample received after recommended holding time was exceeded.

Analyte & Samples(s) Qualified:

Coliform, Total
21I0388-01[MW-2D]

E. Coli
21I0388-01[MW-2D]

SM21-23 4500 H B

Qualifications:

H-05

Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

Analyte & Samples(s) Qualified:

pH
21I0388-01[MW-2D]

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Semivolatile Organic Compounds by - LC/MS-MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
N-EtFOSAA	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
N-MeFOSAA	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
11Cl-PF3OUdS (F53B Minor)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
9Cl-PF3ONS (F53B Major)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0	ng/L	1		EPA 537.1	9/13/21	9/17/21 12:20	BLH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
13C-PFHxA	76.0	70-130		9/17/21 12:20
M3HFPO-DA	85.6	70-130		9/17/21 12:20
13C-PFDA	105	70-130		9/17/21 12:20
d5-NEtFOSAA	102	70-130		9/17/21 12:20

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Polychlorinated Biphenyls By GC/ECD

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Aroclor-1016 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1221 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1232 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1242 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1248 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1254 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1260 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1262 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG
Aroclor-1268 [1]	ND	0.20	µg/L	1		SW-846 8082A	9/10/21	9/17/21 12:01	TG

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
Decachlorobiphenyl [1]	81.5	30-150		9/17/21 12:01
Decachlorobiphenyl [2]	79.4	30-150		9/17/21 12:01
Tetrachloro-m-xylene [1]	72.8	30-150		9/17/21 12:01
Tetrachloro-m-xylene [2]	69.0	30-150		9/17/21 12:01

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Iron	6.3	0.050	mg/L	1		SW-846 6010D	9/11/21	9/12/21 22:12	QNW
Manganese	0.11	0.010	mg/L	1		SW-846 6010D	9/11/21	9/12/21 22:12	QNW
Sodium	5.6	2.0	mg/L	1		SW-846 6010D	9/11/21	9/12/21 22:12	QNW
Hardness	20	1.4	mg/L	1		SW-846 6010	9/11/21	9/12/21 22:12	QNW

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

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

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Apparent Color	75	25	Color Units	5		SM21-23 2120B	9/9/21	9/9/21 9:34	LL
Chloride	1.2	1.0	mg/L	1		EPA 300.0	9/10/21	9/10/21 0:20	CB2
Coliform, Total	3.1	1.0	MPN/100 mL	1	H-03	SM 9223B - COLILERT	9/9/21	9/9/21 16:45	CB2
Nitrate as N	ND	0.10	mg/L	1		EPA 300.0	9/10/21	9/10/21 0:20	CB2
Nitrite as N	ND	0.100	mg/L	1		EPA 300.0	9/10/21	9/10/21 0:20	CB2
pH @20.1°C	6.9		pH Units	1	H-05	SM21-23 4500 H B	9/9/21	9/9/21 20:15	CB2
Turbidity	39	5.0	NTU	10		EPA 180.1	9/9/21	9/9/21 19:30	CB2
E. Coli	ND	1.0	MPN/100 mL	1	H-03	SM 9223B - COLILERT	9/9/21	9/9/21 16:45	CB2

con-test®
A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 500 Series Methods

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	10	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Benzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Bromobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Bromochloromethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Bromodichloromethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Bromoform	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Bromomethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
2-Butanone (MEK)	ND	5.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
tert-Butyl Alcohol (TBA)	ND	5.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
n-Butylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
sec-Butylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
tert-Butylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Carbon Disulfide	ND	5.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Carbon Tetrachloride	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Chlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Chloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Chloroform	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Chloromethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
2-Chlorotoluene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
4-Chlorotoluene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Dibromochloromethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2-Dibromoethane (EDB)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Dibromomethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2-Dichlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,3-Dichlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,4-Dichlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Dichlorodifluoromethane (Freon 12)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1-Dichloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2-Dichloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1-Dichloroethylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
cis-1,2-Dichloroethylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
trans-1,2-Dichloroethylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2-Dichloropropane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,3-Dichloropropane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
2,2-Dichloropropane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1-Dichloropropene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
cis-1,3-Dichloropropene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
trans-1,3-Dichloropropene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,3-Dichloropropene (total)	ND	1.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Diethyl Ether	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Diisopropyl Ether (DIPE)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH

con-test® A Pace Analytical® Laboratory

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Drinking Water Organics EPA 500 Series Methods

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Ethylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Hexachlorobutadiene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
2-Hexanone (MBK)	ND	5.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Isopropylbenzene (Cumene)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
p-Isopropyltoluene (p-Cymene)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Methyl tert-Butyl Ether (MTBE)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Methylene Chloride	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
4-Methyl-2-pentanone (MIBK)	ND	5.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Naphthalene	ND	1.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
n-Propylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Styrene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1,1,2-Tetrachloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Tetrachloroethylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Tetrahydrofuran	ND	2.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Toluene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2,3-Trichlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2,4-Trichlorobenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1,1-Trichloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1,2-Trichloroethane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Trichloroethylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Trichlorofluoromethane (Freon 11)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2,3-Trichloropropane	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,2,4-Trimethylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
1,3,5-Trimethylbenzene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Vinyl Chloride	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
m&p-Xylene	ND	1.0	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
o-Xylene	ND	0.50	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH
Xylenes (total)	ND	1.5	µg/L	1		EPA 524.2	9/14/21	9/14/21 10:35	EEH

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
4-Bromofluorobenzene	93.9	80-120		9/14/21 10:35
1,2-Dichlorobenzene-d4	98.9	80-120		9/14/21 10:35

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

Project Location: Shutesbury, MA | Sample Description: | Work Order: 21I0388

Date Received: 9/9/2021

Field Sample #: MW-2D | Sampled: 9/8/2021 18:45

Sample ID: 21I0388-01

Sample Matrix: Ground Water

Tentatively Identified Compounds - EPA 500 Series Methods

Analyte	Results	Units	Response	RT	DF	CAS #	Q#	Method	Date Prepared	Date/Time Analyzed	Analyst
No TICs Found	0.0	µg/L			1			EPA 524.2	9/14/21	9/14/21 10:35	EEH

con-test®
A Pace Analytical® Laboratory

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

Sample Extraction Data

EPA 180.1

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289941	25.0	25.0	09/09/21

Prep Method: EPA 300.0 **Analytical Method: EPA 300.0**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289936	10.0	10.0	09/10/21

Prep Method: EPA 300.0 **Analytical Method: EPA 300.0**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B290007	10.0	10.0	09/10/21

Prep Method: EPA 524.2 **Analytical Method: EPA 524.2**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B290133	5	5.00	09/14/21

Prep Method: EPA 537.1 **Analytical Method: EPA 537.1**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289995	253	1.00	09/13/21

SM 9223B - COLILERT

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289935	100	100	09/09/21

SM21-23 2120B

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289909	50.0	50.0	09/09/21

SM21-23 4500 H B

Lab Number [Field ID]	Batch	Initial [mL]	Date
21I0388-01 [MW-2D]	B289943	50.0	09/09/21

Prep Method: SW-846 3005A **Analytical Method: SW-846 6010**

Lab Number [Field ID]	Batch	Initial [mL]	Date
21I0388-01 [MW-2D]	B290037	50.0	09/11/21

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

Sample Extraction Data

Prep Method: SW-846 3005A **Analytical Method: SW-846 6010D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B290037	50.0	50.0	09/11/21

Prep Method: SW-846 3510C **Analytical Method: SW-846 8082A**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21I0388-01 [MW-2D]	B289992	1020	10.0	09/10/21

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

Semivolatile Organic Compounds by - LC/MS-MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289995 - EPA 537.1										
Blank (B289995-BLK1)				Prepared: 09/13/21 Analyzed: 09/16/21						
Perfluorobutanesulfonic acid (PFBS)	ND	2.0	ng/L							
Perfluorohexanoic acid (PFHxA)	ND	2.0	ng/L							
Perfluorohexanesulfonic acid (PFHxS)	ND	2.0	ng/L							
Perfluoroheptanoic acid (PFHpA)	ND	2.0	ng/L							
Perfluorooctanoic acid (PFOA)	ND	2.0	ng/L							
Perfluorooctanesulfonic acid (PFOS)	ND	2.0	ng/L							
Perfluorononanoic acid (PFNA)	ND	2.0	ng/L							
Perfluorodecanoic acid (PFDA)	ND	2.0	ng/L							
N-EtFOSAA	ND	2.0	ng/L							
Perfluoroundecanoic acid (PFUnA)	ND	2.0	ng/L							
N-MeFOSAA	ND	2.0	ng/L							
Perfluorododecanoic acid (PFDoA)	ND	2.0	ng/L							
Perfluorotridecanoic acid (PFTrDA)	ND	2.0	ng/L							
Perfluorotetradecanoic acid (PFTA)	ND	2.0	ng/L							
Hexafluoropropylene oxide dimer acid (HFPO-DA)	ND	2.0	ng/L							
11Cl-PF3OUdS (F53B Minor)	ND	2.0	ng/L							
9Cl-PF3ONS (F53B Major)	ND	2.0	ng/L							
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND	2.0	ng/L							
Surrogate: 13C-PFHxA	*40.1*		ng/L	40.4		99.2	70-130			
Surrogate: M3HFPO-DA	*44.1*		ng/L	40.4		109	70-130			
Surrogate: 13C-PFDA	*42.7*		ng/L	40.4		106	70-130			
Surrogate: d5-NEtFOSAA	*161*		ng/L	162		99.6	70-130			
LCS (B289995-BS1)				Prepared: 09/13/21 Analyzed: 09/16/21						
Perfluorobutanesulfonic acid (PFBS)	8.01	2.0	ng/L	8.83		90.8	70-130			
Perfluorohexanoic acid (PFHxA)	9.06	2.0	ng/L	9.95		91.0	70-130			
Perfluorohexanesulfonic acid (PFHxS)	7.38	2.0	ng/L	9.10		81.1	70-130			
Perfluoroheptanoic acid (PFHpA)	8.45	2.0	ng/L	9.95		84.9	70-130			
Perfluorooctanoic acid (PFOA)	9.46	2.0	ng/L	9.95		95.0	70-130			
Perfluorooctanesulfonic acid (PFOS)	8.10	2.0	ng/L	9.24		87.7	70-130			
Perfluorononanoic acid (PFNA)	9.30	2.0	ng/L	9.95		93.4	70-130			
Perfluorodecanoic acid (PFDA)	9.67	2.0	ng/L	9.95		97.1	70-130			
N-EtFOSAA	9.18	2.0	ng/L	9.95		92.2	70-130			
Perfluoroundecanoic acid (PFUnA)	9.71	2.0	ng/L	9.95		97.6	70-130			
N-MeFOSAA	9.11	2.0	ng/L	9.95		91.6	70-130			
Perfluorododecanoic acid (PFDoA)	8.74	2.0	ng/L	9.95		87.8	70-130			
Perfluorotridecanoic acid (PFTrDA)	9.19	2.0	ng/L	9.95		92.4	70-130			
Perfluorotetradecanoic acid (PFTA)	8.83	2.0	ng/L	9.95		88.7	70-130			
Hexafluoropropylene oxide dimer acid (HFPO-DA)	11.9	2.0	ng/L	9.95		120	70-130			
11Cl-PF3OUdS (F53B Minor)	8.88	2.0	ng/L	9.38		94.7	70-130			
9Cl-PF3ONS (F53B Major)	9.26	2.0	ng/L	9.29		99.7	70-130			
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	8.38	2.0	ng/L	9.40		89.1	70-130			
Surrogate: 13C-PFHxA	*39.8*		ng/L	39.8		100	70-130			
Surrogate: M3HFPO-DA	*44.1*		ng/L	39.8		111	70-130			
Surrogate: 13C-PFDA	*40.8*		ng/L	39.8		102	70-130			
Surrogate: d5-NEtFOSAA	*154*		ng/L	159		96.8	70-130			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Polychlorinated Biphenyls By GC/ECD - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289992 - SW-846 3510C										
Blank (B289992-BLK1)				Prepared: 09/10/21 Analyzed: 09/11/21						
Aroclor-1016	ND	0.20	µg/L							
Aroclor-1016 [2C]	ND	0.20	µg/L							
Aroclor-1221	ND	0.20	µg/L							
Aroclor-1221 [2C]	ND	0.20	µg/L							
Aroclor-1232	ND	0.20	µg/L							
Aroclor-1232 [2C]	ND	0.20	µg/L							
Aroclor-1242	ND	0.20	µg/L							
Aroclor-1242 [2C]	ND	0.20	µg/L							
Aroclor-1248	ND	0.20	µg/L							
Aroclor-1248 [2C]	ND	0.20	µg/L							
Aroclor-1254	ND	0.20	µg/L							
Aroclor-1254 [2C]	ND	0.20	µg/L							
Aroclor-1260	ND	0.20	µg/L							
Aroclor-1260 [2C]	ND	0.20	µg/L							
Aroclor-1262	ND	0.20	µg/L							
Aroclor-1262 [2C]	ND	0.20	µg/L							
Aroclor-1268	ND	0.20	µg/L							
Aroclor-1268 [2C]	ND	0.20	µg/L							
Surrogate: Decachlorobiphenyl	*0.735*		µg/L	2.00		36.7	30-150			
Surrogate: Decachlorobiphenyl [2C]	*0.631*		µg/L	2.00		31.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.36*		µg/L	2.00		67.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.37*		µg/L	2.00		68.4	30-150			
LCS (B289992-BS1)				Prepared: 09/10/21 Analyzed: 09/12/21						
Aroclor-1016	0.45	0.20	µg/L	0.500		89.3	40-140			
Aroclor-1016 [2C]	0.40	0.20	µg/L	0.500		80.8	40-140			
Aroclor-1260	0.41	0.20	µg/L	0.500		81.3	40-140			
Aroclor-1260 [2C]	0.37	0.20	µg/L	0.500		74.0	40-140			
Surrogate: Decachlorobiphenyl	*1.52*		µg/L	2.00		75.9	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.37*		µg/L	2.00		68.7	30-150			
Surrogate: Tetrachloro-m-xylene	*1.53*		µg/L	2.00		76.7	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.42*		µg/L	2.00		71.0	30-150			
LCS Dup (B289992-BSD1)				Prepared: 09/10/21 Analyzed: 09/12/21						
Aroclor-1016	0.45	0.20	µg/L	0.500		89.3	40-140	0.0425	20	
Aroclor-1016 [2C]	0.41	0.20	µg/L	0.500		81.3	40-140	0.624	20	
Aroclor-1260	0.41	0.20	µg/L	0.500		81.2	40-140	0.140	20	
Aroclor-1260 [2C]	0.36	0.20	µg/L	0.500		72.1	40-140	2.68	20	
Surrogate: Decachlorobiphenyl	*1.31*		µg/L	2.00		65.4	30-150			
Surrogate: Decachlorobiphenyl [2C]	*1.19*		µg/L	2.00		59.5	30-150			
Surrogate: Tetrachloro-m-xylene	*1.52*		µg/L	2.00		75.9	30-150			
Surrogate: Tetrachloro-m-xylene [2C]	*1.42*		µg/L	2.00		70.9	30-150			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Metals Analyses (Total) - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290037 - SW-846 3005A										
Blank (B290037-BLK1)				Prepared: 09/11/21 Analyzed: 09/12/21						
Iron	ND	0.050	mg/L							
Manganese	ND	0.010	mg/L							
Sodium	ND	2.0	mg/L							
Hardness	ND	1.4	mg/L							
LCS (B290037-BS1)				Prepared: 09/11/21 Analyzed: 09/12/21						
Iron	4.28	0.050	mg/L	4.00		107	80-120			
Manganese	0.532	0.010	mg/L	0.500		106	80-120			
Sodium	4.53	2.0	mg/L	4.00		113	80-120			
Hardness	28	1.4	mg/L	26.4		106	80-120			
LCS Dup (B290037-BSD1)				Prepared: 09/11/21 Analyzed: 09/12/21						
Iron	4.31	0.050	mg/L	4.00		108	80-120	0.755	20	
Manganese	0.537	0.010	mg/L	0.500		107	80-120	1.02	20	
Sodium	4.52	2.0	mg/L	4.00		113	80-120	0.254	20	
Hardness	28	1.4	mg/L	26.4		106	80-120	0.762	20	

con-test® A Pace Analytical® Laboratory

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

QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B289909 - SM21-23 2120B										
LCS (B289909-BS1)				Prepared & Analyzed: 09/09/21						
Apparent Color	15.0		Color Units	15.0		100	76-114			
Batch B289935 - SM 9223B - COLILERT										
Blank (B289935-BLK1)				Prepared & Analyzed: 09/09/21						
Coliform, Total	ND	1.0	MPN/100 mL							
E. Coli	ND	1.0	MPN/100 mL							
Batch B289936 - EPA 300.0										
Blank (B289936-BLK1)				Prepared & Analyzed: 09/09/21						
Nitrate as N	ND	0.10	mg/L							
Nitrite as N	ND	0.100	mg/L							
LCS (B289936-BS1)				Prepared & Analyzed: 09/09/21						
Nitrate as N	1.0	0.10	mg/L	1.00		104	90-110			
Nitrite as N	1.06	0.100	mg/L	1.00		106	90-110			
LCS Dup (B289936-BSD1)				Prepared & Analyzed: 09/09/21						
Nitrate as N	1.0	0.10	mg/L	1.00		104	90-110	0.385	20	
Nitrite as N	1.06	0.100	mg/L	1.00		106	90-110	0.0660	20	
Batch B289941 - EPA 180.1										
Blank (B289941-BLK1)				Prepared & Analyzed: 09/09/21						
Turbidity	ND	0.50	NTU							
LCS (B289941-BS1)				Prepared & Analyzed: 09/09/21						
Turbidity	4.1		NTU	4.00		102	90-110			
LCS Dup (B289941-BSD1)				Prepared & Analyzed: 09/09/21						
Turbidity	4.1		NTU	4.00		102	90-110	0.736	5	
Batch B289943 - SM21-23 4500 H B										
LCS (B289943-BS1)				Prepared & Analyzed: 09/09/21						
pH	5.99		pH Units	6.00		99.9	90-110			

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

QUALITY CONTROL

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290007 - EPA 300.0										
Blank (B290007-BLK1)				Prepared & Analyzed: 09/09/21						
Chloride	ND	1.0	mg/L							
LCS (B290007-BS1)				Prepared & Analyzed: 09/09/21						
Chloride	10	1.0	mg/L	10.0		105	90-110			
LCS Dup (B290007-BSD1)				Prepared & Analyzed: 09/09/21						
Chloride	11	1.0	mg/L	10.0		105	90-110	0.0638	20	

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Drinking Water Organics EPA 500 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290133 - EPA 524.2										
Blank (B290133-BLK1)				Prepared & Analyzed: 09/14/21						
Acetone	ND	10	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	0.50	µg/L							
Bromobenzene	ND	0.50	µg/L							
Bromochloromethane	ND	0.50	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	0.50	µg/L							
Bromomethane	ND	0.50	µg/L							
2-Butanone (MEK)	ND	5.0	µg/L							
tert-Butyl Alcohol (TBA)	ND	5.0	µg/L							
n-Butylbenzene	ND	0.50	µg/L							
sec-Butylbenzene	ND	0.50	µg/L							
tert-Butylbenzene	ND	0.50	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	0.50	µg/L							
Chlorobenzene	ND	0.50	µg/L							
Chloroethane	ND	0.50	µg/L							
Chloroform	ND	0.50	µg/L							
Chloromethane	ND	0.50	µg/L							
2-Chlorotoluene	ND	0.50	µg/L							
4-Chlorotoluene	ND	0.50	µg/L							
Dibromochloromethane	ND	0.50	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	2.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	0.50	µg/L							
1,2-Dichlorobenzene	ND	0.50	µg/L							
1,3-Dichlorobenzene	ND	0.50	µg/L							
1,4-Dichlorobenzene	ND	0.50	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	0.50	µg/L							
1,1-Dichloroethane	ND	0.50	µg/L							
1,2-Dichloroethane	ND	0.50	µg/L							
1,1-Dichloroethylene	ND	0.50	µg/L							
cis-1,2-Dichloroethylene	ND	0.50	µg/L							
trans-1,2-Dichloroethylene	ND	0.50	µg/L							
1,2-Dichloropropane	ND	0.50	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	0.50	µg/L							
1,1-Dichloropropene	ND	0.50	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	0.50	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
Ethylbenzene	ND	0.50	µg/L							
Hexachlorobutadiene	ND	0.50	µg/L							
2-Hexanone (MBK)	ND	5.0	µg/L							
Isopropylbenzene (Cumene)	ND	0.50	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	0.50	µg/L							
Methyl tert-Butyl Ether (MTBE)	ND	0.50	µg/L							
Methylene Chloride	ND	0.50	µg/L							
4-Methyl-2-pentanone (MIBK)	ND	5.0	µg/L							
Naphthalene	ND	1.0	µg/L							

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Drinking Water Organics EPA 500 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290133 - EPA 524.2										
Blank (B290133-BLK1)				Prepared & Analyzed: 09/14/21						
n-Propylbenzene	ND	0.50	µg/L							
Styrene	ND	0.50	µg/L							
1,1,1,2-Tetrachloroethane	ND	0.50	µg/L							
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L							
Tetrachloroethylene	ND	0.50	µg/L							
Tetrahydrofuran	ND	2.0	µg/L							
Toluene	ND	0.50	µg/L							
1,2,3-Trichlorobenzene	ND	0.50	µg/L							
1,2,4-Trichlorobenzene	ND	0.50	µg/L							
1,1,1-Trichloroethane	ND	0.50	µg/L							
1,1,2-Trichloroethane	ND	0.50	µg/L							
Trichloroethylene	ND	0.50	µg/L							
Trichlorofluoromethane (Freon 11)	ND	0.50	µg/L							
1,2,3-Trichloropropane	ND	0.50	µg/L							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	µg/L							
1,2,4-Trimethylbenzene	ND	0.50	µg/L							
1,3,5-Trimethylbenzene	ND	0.50	µg/L							
Vinyl Chloride	ND	0.50	µg/L							
m&p-Xylene	ND	1.0	µg/L							
o-Xylene	ND	0.50	µg/L							
Surrogate: 4-Bromofluorobenzene	*23.9*		µg/L	25.0		95.4	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	*25.2*		µg/L	25.0		101	80-120			
LCS (B290133-BS1)				Prepared & Analyzed: 09/14/21						
Acetone	100	10	µg/L	100		104	70-130			
tert-Amyl Methyl Ether (TAME)	11	0.50	µg/L	10.0		107	70-130			
Benzene	10	0.50	µg/L	10.0		101	70-130			
Bromobenzene	10	0.50	µg/L	10.0		100	70-130			
Bromochloromethane	11	0.50	µg/L	10.0		109	70-130			
Bromodichloromethane	11	0.50	µg/L	10.0		108	70-130			
Bromoform	12	0.50	µg/L	10.0		117	70-130			
Bromomethane	11	0.50	µg/L	10.0		105	70-130			
2-Butanone (MEK)	110	5.0	µg/L	100		109	70-130			
tert-Butyl Alcohol (TBA)	89	5.0	µg/L	100		89.0	70-130			
n-Butylbenzene	9.5	0.50	µg/L	10.0		95.2	70-130			
sec-Butylbenzene	9.6	0.50	µg/L	10.0		95.8	70-130			
tert-Butylbenzene	9.6	0.50	µg/L	10.0		95.9	70-130			
tert-Butyl Ethyl Ether (TBEE)	13	0.50	µg/L	10.0		130	70-130			
Carbon Disulfide	110	5.0	µg/L	100		107	70-130			
Carbon Tetrachloride	11	0.50	µg/L	10.0		106	70-130			
Chlorobenzene	10	0.50	µg/L	10.0		100	70-130			
Chloroethane	12	0.50	µg/L	10.0		118	70-130			
Chloroform	10	0.50	µg/L	10.0		105	70-130			
Chloromethane	8.9	0.50	µg/L	10.0		89.4	70-130			
2-Chlorotoluene	8.8	0.50	µg/L	10.0		88.3	70-130			
4-Chlorotoluene	9.6	0.50	µg/L	10.0		96.1	70-130			
Dibromochloromethane	11	0.50	µg/L	10.0		109	70-130			
1,2-Dibromo-3-chloropropane (DBCP)	11	2.0	µg/L	10.0		107	70-130			
1,2-Dibromoethane (EDB)	11	0.50	µg/L	10.0		108	70-130			
Dibromomethane	10	0.50	µg/L	10.0		105	70-130			
1,2-Dichlorobenzene	9.9	0.50	µg/L	10.0		99.4	70-130			
1,3-Dichlorobenzene	10	0.50	µg/L	10.0		102	70-130			

con-test®
A Pace Analytical® Laboratory

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

QUALITY CONTROL

Drinking Water Organics EPA 500 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290133 - EPA 524.2										
LCS (B290133-BS1)				Prepared & Analyzed: 09/14/21						
1,4-Dichlorobenzene	9.9	0.50	µg/L	10.0		99.1	70-130			
Dichlorodifluoromethane (Freon 12)	10	0.50	µg/L	10.0		103	70-130			
1,1-Dichloroethane	10	0.50	µg/L	10.0		103	70-130			
1,2-Dichloroethane	10	0.50	µg/L	10.0		105	70-130			
1,1-Dichloroethylene	10	0.50	µg/L	10.0		103	70-130			
cis-1,2-Dichloroethylene	10	0.50	µg/L	10.0		104	70-130			
trans-1,2-Dichloroethylene	9.9	0.50	µg/L	10.0		99.4	70-130			
1,2-Dichloropropane	10	0.50	µg/L	10.0		104	70-130			
1,3-Dichloropropane	11	0.50	µg/L	10.0		106	70-130			
2,2-Dichloropropane	12	0.50	µg/L	10.0		118	70-130			
1,1-Dichloropropene	10	0.50	µg/L	10.0		100	70-130			
cis-1,3-Dichloropropene	11	0.50	µg/L	10.0		107	70-130			
trans-1,3-Dichloropropene	11	0.50	µg/L	10.0		115	70-130			
Diethyl Ether	10	0.50	µg/L	10.0		103	70-130			
Diisopropyl Ether (DIPE)	10	0.50	µg/L	10.0		102	70-130			
Ethylbenzene	9.8	0.50	µg/L	10.0		97.6	70-130			
Hexachlorobutadiene	10	0.50	µg/L	10.0		102	70-130			
2-Hexanone (MBK)	110	5.0	µg/L	100		112	70-130			
Isopropylbenzene (Cumene)	9.6	0.50	µg/L	10.0		96.5	70-130			
p-Isopropyltoluene (p-Cymene)	9.7	0.50	µg/L	10.0		96.6	70-130			
Methyl tert-Butyl Ether (MTBE)	11	0.50	µg/L	10.0		112	70-130			
Methylene Chloride	10	0.50	µg/L	10.0		100	70-130			
4-Methyl-2-pentanone (MIBK)	110	5.0	µg/L	100		110	70-130			
Naphthalene	7.7	1.0	µg/L	10.0		77.3	70-130			
n-Propylbenzene	9.7	0.50	µg/L	10.0		96.6	70-130			
Styrene	10	0.50	µg/L	10.0		99.6	70-130			
1,1,1,2-Tetrachloroethane	11	0.50	µg/L	10.0		108	70-130			
1,1,2,2-Tetrachloroethane	11	0.50	µg/L	10.0		106	70-130			
Tetrachloroethylene	11	0.50	µg/L	10.0		106	70-130			
Tetrahydrofuran	11	2.0	µg/L	10.0		110	70-130			
Toluene	9.9	0.50	µg/L	10.0		99.4	70-130			
1,2,3-Trichlorobenzene	8.8	0.50	µg/L	10.0		88.1	70-130			
1,2,4-Trichlorobenzene	8.9	0.50	µg/L	10.0		89.0	70-130			
1,1,1-Trichloroethane	10	0.50	µg/L	10.0		103	70-130			
1,1,2-Trichloroethane	11	0.50	µg/L	10.0		106	70-130			
Trichloroethylene	10	0.50	µg/L	10.0		100	70-130			
Trichlorofluoromethane (Freon 11)	11	0.50	µg/L	10.0		107	70-130			
1,2,3-Trichloropropane	10	0.50	µg/L	10.0		103	70-130			
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	11	0.50	µg/L	10.0		108	70-130			
1,2,4-Trimethylbenzene	9.8	0.50	µg/L	10.0		98.2	70-130			
1,3,5-Trimethylbenzene	9.7	0.50	µg/L	10.0		96.8	70-130			
Vinyl Chloride	8.0	0.50	µg/L	10.0		79.9	70-130			
m&p-Xylene	20	1.0	µg/L	20.0		98.0	70-130			
o-Xylene	10	0.50	µg/L	10.0		101	70-130			
Surrogate: 4-Bromofluorobenzene	*24.3*		µg/L	25.0		97.3	80-120			
Surrogate: 1,2-Dichlorobenzene-d4	*24.9*		µg/L	25.0		99.7	80-120			

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

QUALITY CONTROL

Tentatively Identified Compounds - EPA 500 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B290133 - EPA 524.2										
Blank (B290133-BLK1)				Prepared & Analyzed: 09/14/21						
No TICs Found	0.0		µg/L							

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS

Lab Sample ID: B289992-BS1

Date(s) Analyzed: 09/12/2021 09/12/2021

Instrument ID (1): ECD 9

Instrument ID (2): ECD 9

GC Column (1): ID: (mm)

GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.45	
	2	0.000	0.000	0.000	0.40	11.8
Aroclor-1260	1	0.000	0.000	0.000	0.41	
	2	0.000	0.000	0.000	0.37	10.3

con-test®
A Pace Analytical® Laboratory

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

IDENTIFICATION SUMMARY FOR SINGLE COMPONENT ANALYTES

SW-846 8082A

LCS Dup

Lab Sample ID: B289992-BSD1 Date(s) Analyzed: 09/12/2021 09/12/2021

Instrument ID (1): ECD 9 Instrument ID (2): ECD 9

GC Column (1): ID: (mm) GC Column (2): ID: (mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%RPD
			FROM	TO		
Aroclor-1016	1	0.000	0.000	0.000	0.45	
	2	0.000	0.000	0.000	0.41	9.3
Aroclor-1260	1	0.000	0.000	0.000	0.41	
	2	0.000	0.000	0.000	0.36	13.0

con-test®
A Pace Analytical® Laboratory

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

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
H-03	Sample received after recommended holding time was exceeded.
H-05	Holding time was exceeded. pH analysis should be performed immediately at time of sampling. Nominal 15 minute holding time was exceeded.

con-test®
A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 180.1 in Water	
Turbidity	NC,NY
EPA 300.0 in Water	
Chloride	NC,NY,MA,VA,ME,NH,CT,RI
Nitrate as N	NC,NY,MA,VA,ME,NH,CT,RI
Nitrite as N	NY,NC,NH,VA,ME,CT,RI
EPA 524.2 in Drinking Water	
Benzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Bromobenzene	CT,MA,NH,NY,RI,VT-DW
Bromochloromethane	CT,MA,NH,NY,RI,VT-DW
Bromodichloromethane	MA,NH,NY,RI,ME,VA,VT-DW
Bromoform	CT,MA,NH,NY,RI,ME,VT-DW
Bromomethane	CT,MA,NH,NY,RI,VT-DW
n-Butylbenzene	CT,MA,NH,NY,RI,VT-DW
sec-Butylbenzene	CT,MA,NH,NY,RI,VT-DW
tert-Butylbenzene	CT,MA,NH,NY,RI,VT-DW
Carbon Tetrachloride	CT,MA,NH,NY,RI,ME,VA,VT-DW
Chlorobenzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Chloroethane	CT,MA,NH,NY,RI,VT-DW
Chloroform	MA,NH,NY,RI,ME,VA,VT-DW
Chloromethane	CT,MA,NH,NY,RI,VT-DW
2-Chlorotoluene	CT,MA,NH,NY,RI,VT-DW
4-Chlorotoluene	CT,MA,NH,NY,RI,VT-DW
Dibromochloromethane	MA,NH,NY,RI,ME,VA,VT-DW
Dibromomethane	CT,MA,NH,NY,RI,VT-DW
1,2-Dichlorobenzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,3-Dichlorobenzene	CT,MA,NH,NY,RI,VT-DW
1,4-Dichlorobenzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Dichlorodifluoromethane (Freon 12)	CT,MA,NH,NY,RI,VT-DW
1,1-Dichloroethane	CT,MA,NH,NY,RI,VT-DW
1,2-Dichloroethane	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,1-Dichloroethylene	CT,MA,NH,NY,RI,ME,VA,VT-DW
cis-1,2-Dichloroethylene	CT,MA,NH,NY,RI,ME,VA,VT-DW
trans-1,2-Dichloroethylene	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,2-Dichloropropane	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,3-Dichloropropane	CT,MA,NH,NY,RI,VT-DW
2,2-Dichloropropane	CT,MA,NH,NY,RI,VT-DW
1,1-Dichloropropene	CT,MA,NH,NY,RI,VT-DW
cis-1,3-Dichloropropene	CT,MA,NH,NY,RI,VT-DW
trans-1,3-Dichloropropene	CT,MA,NH,NY,RI,VT-DW
1,3-Dichloropropene (total)	CT,MA
Ethylbenzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Hexachlorobutadiene	CT,MA,NH,NY,RI,VT-DW
Isopropylbenzene (Cumene)	CT,MA,NH,NY,RI,VT-DW
p-Isopropyltoluene (p-Cymene)	CT,MA,NH,NY,RI,VT-DW
Methyl tert-Butyl Ether (MTBE)	CT,MA,NH,NY,RI,ME,VT-DW
Methylene Chloride	CT,MA,NH,NY,RI,ME,VA,VT-DW

con-test®
A Pace Analytical® Laboratory

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 524.2 in Drinking Water	
Naphthalene	NY
n-Propylbenzene	NY,VT-DW
Styrene	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,1,1,2-Tetrachloroethane	CT,MA,NH,NY,RI,VT-DW
1,1,2,2-Tetrachloroethane	CT,MA,NH,NY,RI,VT-DW
Tetrachloroethylene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Toluene	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,2,3-Trichlorobenzene	CT,MA,NH,NY,RI,VT-DW
1,2,4-Trichlorobenzene	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,1,1-Trichloroethane	CT,MA,NH,NY,RI,ME,VA,VT-DW
1,1,2-Trichloroethane	CT,MA,NH,NY,RI,ME,VA,VT-DW
Trichloroethylene	CT,MA,NH,NY,RI,ME,VA,VT-DW
Trichlorofluoromethane (Freon 11)	CT,MA,NH,NY,RI,VT-DW
1,2,3-Trichloropropane	CT,MA,NH,NY,RI,VT-DW
1,2,4-Trimethylbenzene	CT,MA,NH,NY,RI,VT-DW
1,3,5-Trimethylbenzene	CT,MA,NH,NY,RI,VT-DW
Vinyl Chloride	CT,MA,NH,NY,RI,ME,VA,VT-DW
m&p-Xylene	VA
o-Xylene	VA
Xylenes (total)	CT,MA,NH,NY,RI,ME,VA,VT-DW
EPA 537.1 in Drinking Water	
Perfluorobutanesulfonic acid (PFBS)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorohexanoic acid (PFHxA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorohexanesulfonic acid (PFHxS)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluoroheptanoic acid (PFHpA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorooctanoic acid (PFOA)	VT-DW,NJ,CT,ME,PA,MI,NY,NH,MA
Perfluorooctanesulfonic acid (PFOS)	VT-DW,NJ,CT,ME,PA,MI,NY,NH,MA
Perfluorononanoic acid (PFNA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorodecanoic acid (PFDA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
N-EtFOSAA	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluoroundecanoic acid (PFUnA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
N-MeFOSAA	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorododecanoic acid (PFDoA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorotridecanoic acid (PFTrDA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Perfluorotetradecanoic acid (PFTA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
Hexafluoropropylene oxide dimer acid (HFPO-DA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
11Cl-PF3OUdS (F53B Minor)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
9Cl-PF3ONS (F53B Major)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	NH-P,VT-DW,NJ,CT,ME,PA,MI,MA
SM 9223B - COLILERT in Water	
E. Coli	MA,CT,RI
SM21-23 2120B in Drinking Water	
Apparent Color	CT,NH,NY,ME,VA
SM21-23 4500 H B in Water	
pH	CT,MA,RI

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

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 6010 in Water	
Hardness	CT,MA,NH,NY
SW-846 6010D in Water	
Iron	CT,NH,NY,ME,VA,NC
Manganese	CT,NH,NY,ME,VA,NC
Sodium	CT,NH,NY,ME,VA,NC
SW-846 8082A in Water	
Aroclor-1016	CT,NH,NY,NC,ME,VA,PA
Aroclor-1016 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221	CT,NH,NY,NC,ME,VA,PA
Aroclor-1221 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232	CT,NH,NY,NC,ME,VA,PA
Aroclor-1232 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242	CT,NH,NY,NC,ME,VA,PA
Aroclor-1242 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248	CT,NH,NY,NC,ME,VA,PA
Aroclor-1248 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254	CT,NH,NY,NC,ME,VA,PA
Aroclor-1254 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260	CT,NH,NY,NC,ME,VA,PA
Aroclor-1260 [2C]	CT,NH,NY,NC,ME,VA,PA
Aroclor-1262	NH,NY,NC,ME,VA,PA
Aroclor-1262 [2C]	NH,NY,NC,ME,VA,PA
Aroclor-1268	NH,NY,NC,ME,VA,PA
Aroclor-1268 [2C]	NH,NY,NC,ME,VA,PA

Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2022
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

21 I of MP 388

Pace Analytical®

Phone: 413-525-2332
Fax: 413-525-6405

http://www.pacelabs.com

CHAIN OF CUSTODY RECORD

39 Spruce Street
East Longmeadow, MA 01028

Doc # 381 Rev 5_07/13/2021

Page 1 of 1

Access COC's and Support Requests

Company Name:	GTO Associates
Address:	293 Bridge St Suite 500 Springfield MA
Phone:	413-788-6222
Project Name:	66 Leverett Rd
Project Location:	Shutesbury, MA
Project Number:	2060-02-01
Project Manager:	Mark O'Malley
Pace Quote Name/Number:	
Invoice Recipient:	GTO
Sampled By:	Mark O'Malley

Requested Turnaround Time
7-Day ☐ 10-Day ☐
PFAS 10-Day (std) ☑ Due Date:

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

Data Delivery
Format: PDF ☑ EXCEL ☑
Other:
CLP Like Data Pkg Required: ☐
Email To: omalley@gto-env.com
Fax To #:

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

PCB ONLY
SOXHLET ☐
NON SOXHLET ☑

ANALYSIS REQUESTED

Pace Work Order#	Client Sample ID / Description	Beginning Date/Time	Ending Date/Time	COMP/GRAB	Matrix Code	Conc Code	VIALS	GLASS	PLASTIC	BACTERIA	ENCORE	O PFAS 537.1	H VOCs+TICs 524.2	I PCBs 8082	I Coliform SM9223	I NO3	F pH color turbidity	F Hardness	I Chloride	N Fe	N Mn	N
1	MW-2D	1845	1845	G	GW	C	2	2	3	1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	FRB	1900	1900	G	GW	C	0		1													
3	Duplicate	1850	1850	G	GW	C	2		1													
4	Trip Blank	—	—	Grab	GW	C	1															

Hold

Glassware in the fridge? Y / N
Glassware in freezer? Y / N
Prepackaged Cooler? Y / N
*Pace Analytical is not responsible for missing samples from prepacked coolers

Courier Use Only
Total Number Of:
VIALS
GLASS
PLASTIC
BACTERIA
ENCORE

[2] Preservation Code

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil
SL = Sludge
SOL = Solid
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define) TRZ

Relinquished by: (signature) Mark O'Malley	Date/Time: 9/9/21 830
Received by: (signature) MO	Date/Time: 9/9/21 830
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:
Relinquished by: (signature)	Date/Time:
Received by: (signature)	Date/Time:

Client Comments:

Detection Limit Requirements
MA: RCS-1
CT:
Other:

Special Requirements
☑ MA MCP Required
MCP Certification Form Required
☐ CT RCP Required
RCP Certification Form Required
☐ MA State DW Required
PWSID #

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

NELAC and AIHA-LAP, LLC Accredited

Project Entity
Government ☐ Municipality ☑ MWRA ☐ WRTA ☐
Federal ☐ 21 J ☐ School ☐
City ☐ Brownfield ☐ MBTA ☐

Other
☐ Chromatogram
☐ AIHA-LAP,LLC

Comments:
per client run bacteria past hold. JLH 9/9/2021

Disclaimer: Pace Analytical is not responsible for any omitted information on the Chain of Custody. The Chain of Custody is a legal document that must be complete and accurate and is used to determine what analyses the laboratory will perform. Any missing information is not the laboratory's responsibility. Pace Analytical values your partnership on each project and will try to assist with missing information, but will not be held accountable.

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client OTU

Received By MP Date 01/01 Time 830

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____

Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 5 Actual Temp - 4.4

By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? NA Were Samples Tampered with? NA

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T

Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F Who was notified? _____

Are there Rushes? F Who was notified? _____

Are there Short Holds? T Who was notified? Frank

Is there enough Volume? T

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? MP T On COC? T

Do all samples have the proper pH? Acid pH<2 Base _____

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.	2	1 Liter Plastic	1	16 oz Amb.	
HCL-	5	500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic	4	4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria	1	2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments:

MADEP MCP Analytical Method Report Certification Form

Laboratory Name: Con-Test, a Pace Analytical Laboratory	Project #: 21I0388
Project Location: Shutesbury, MA	RTN:

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

21I0388-01 thru 21I0388-02

Matrices: Water

CAM Protocol (check all that below)

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

Affirmative response to Questions A throughF 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	☐ No[1]
B	Were the analytical method(s) and all associated QC requirements specificed in the selected CAM protocol(s) followed?	☑ Yes	☐ No[1]
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes	☐ No[1]
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, Quality Assurance and Quality Control Guidlines for the Acquisition and Reporting of Analytical Data?	☑ Yes	☐ No[1]
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).	☐ Yes	☐ No[1]
E b	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes	☐ No[1]
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all No responses to Qestions A through E)?	☑ Yes	☐ No[1]

A response to questions G, H and I below 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	☐ No[1]

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

H	Were all QC perfomance standards specified in the CAM protocol(s) achieved?	☐ Yes	☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes	☐ No[1]

[1] *All Negative responses must be addressed in an attached Environmental Laboratory case narrative.*

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

Signature: Lisa Worthington Position: Technical Representative

Printed Name: Lisa A. Worthington Date: 09/20/21

APPENDIX E

O'REILLY, TALBOT & OKUN ASSOCIATES, INC.
ENVIRONMENTAL AND GEOTECHNICAL ENGINEERING CONSULTANTS

GROUNDWATER SAMPLING RECORD

PROJECT: 1 Cooleyville Rd - 66 Leverett Rd. *PROJECT NO.:* 2060-02-01
CITY/STATE: Shutesbury, MA
SAMPLING PERSONNEL: Mark O'Malley
DATE: 9/8/21 *WEATHER:* Sun + clouds 70s
SAMPLE DESIGNATION: MW-2D *SAMPLING SEQUENCE No.* 1 of 1
PURGE METHOD: BAILER / PUMP - LOW or HIGH FLOW ? / OTHER
METHOD: BAILER / PERISTALTIC PUMP / DOWNHOLE PUMP / OTHER

WELL DATA
MEASURING POINT: Top of: PVC / Curb box / Protective pipe / Other:
Vertical distance from measuring point to ground surface: ~2' above / below grade
WELL DIAMETER: 6" *DEPTH TO WATER:* 9.86 *TOTAL DEPTH:* 100
STANDING WATER(ft): ~90 *ONE VOLUME = (gal):* ~132
INTAKE DEPTH(ft): ~50-60
CONDITION OF WELL: Good / unlocked / standing water in annulus / other:
RECHARGE RATE: Slow / Moderate / Fast

WATER DATA
APPEARANCE: Clear / cloudy / silty / sheen / floating product / other: faint orange tint
ODOR: None / Petroleum / Other (describe):

Time	1815	1820	1825	1830	1835	1840	1845
Depth to water	10.84	10.85	10.85	10.85	10.85	10.85	10.86
Cum. purge volume	~420	~437	454	471	488	505	522
Temp (°C)	12.0	11.8	11.0	10.8	10.8	10.8	10.6
Dissolved O_2 (mg/l)	2.17	1.74	1.76	1.74	1.62	1.84	1.73
Cond'y (umho/cm)	70.6	70.1	69.5	69.2	69.0	68.9	68.8
pH (S.U.)	7.55	7.43	7.43	7.45	7.44	7.44	7.44
ORP/other:	55.5	47.6	35.9	35.9	38.2	39.2	39.6
Turbidity	66.1	20.5	16.7	15.9	19.8	26.7	23.8

Low Sunlight

SAMPLE BOTTLES: FILTRATION?: YES / NO. If yes, pore size: 0.45 micron / other

ANALYSIS	BOTTLES (number & type)	PRESERVATIVE (type&amount)
See chain	Various	See chain
PFAS	↓	↓
PCBs		
VOCs		
Potability		

NOTES AND OBSERVATIONS:
begin purging @ 1610 @ 3 to 4 gal/minute Sample @ 1845
FRB 1900
High Turbidity / Pump silted / bacteria upon removal
Duplicate 1850