September 30, 2024

GRAVES ENGINEERING, Inc.

Worcester Zoning Board of Appeals
Attn: Rose Russell, Senior Planner
Division of Planning & Regulatory Services
City Hall
455 Main Street, Room 404
Worcester, MA 01608

Subject: Special Permit Application – Art IV § 5.A.4
12 Oak Knoll Road – Earth Filling Operations
Revised Plans

Dear Members of the Board,

Pursuant to staff and Zoning Board of Appeals member comments received for the subject project, please find the attached revised plans:

- Drawings entitled "Earth Filling Plan, 12 Oak Knoll Road", dated last revised September 30, 2024 (revision #3), prepared by Graves Engineering, Inc. (GEI).

- "Limited Subsurface Investigation Report", dated September 28, 2024, prepared by Parker Environmental Corporation.

We offer the following comments:

1. At the May 6, 2024 ZBA meeting, it was requested that testing of the imported soil be conducted to determine the presence of hazardous materials, if any. The owner retained a Licensed Site Professional (LSP), Parker Environmental Corporation, who conducted sampling and testing of both native site and imported soils. The details of their findings are in the attached report however it can be summarized that the imported soils are "clean" and free of any reportable hazardous materials.

2. The current condition of the slope is stable and is partially vegetated with naturally occurring vegetation. Previous evidence of erosion remains but no new erosion has occurred. Further, an inspection of the downgradient woods off the site property do not show evidence of sedimentation. Nevertheless, perimeter sediment controls will be reinstalled.

3. Erosion control blankets and erosion control seed mix were previously proposed for final stabilization and remain proposed. The finished slope, which varies from a 3:1 to 2.5:1 grade, will be adequately stabilized by the proposed controls including the erosion controls blankets which are manufactured specifically for this slope grade and application. The proposed stabilization is both appropriate and more than adequate to assure short and long-term stabilization of the finished slope. Product data for the proposed erosion control blankets and seed mix are attached in support of the design.

4. At the May 6, 2024 ZBA meeting, a question was raised in regard to compaction of the fill as it was placed. As the fill was not placed for any structural support subject to a building permit, like a house foundation, etc., it was not required to be "controlled construction" and thus no compaction testing was required or done. Placement of the fill, which is generally less than 10 feet deep, was done according to typical construction standards for general fill slope placement by dumping, spreading with an excavator bucket, and tamping with the same bucket. Finally, there has been no observed settling of the fill material that would indicate insufficient compaction.

5. Additional proposed shade tree plantings have been added to total 10 new trees as suggested in staff

review comments.

6. Site photos were taken on September 25, 2024 and are attached to this letter.

We look forward to discussing this project further with the Board and staff. If you have any questions concerning this application, please feel free to contact our office.

Very Truly Yours,
Graves Engineering, Inc.

Michael Andrade, P.E.
Principal

cc: Client

Attachments: Erosion Control Blanket Product Data
Seed Mix Product Data
Site Photos

SITE PHOTOS (taken 9/25/24):

Photo 1: Toe of slope facing north.

Photo 2: Toe of slope facing northwest.

Photo 3: Toe of slope facing west.

Photo 4: Toe of slope facing southeast at property line (lowest point).

MATERIAL PROPERTY DATA SHEET

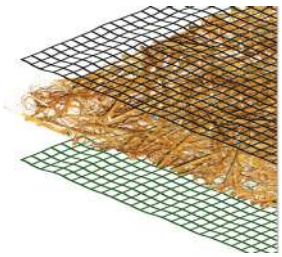
WESTERN GREEN

EroNet™ SC150®

Extended Term • Double Net • Coconut/Straw Matrix • Erosion Control Blanket

DESCRIPTION

The Coconut/Straw SC150 extended term Erosion Control Blanket consists of 30% coconut fibers and 70% weed free agricultural straw manufactured into a continuous matrix. The coconut/straw matrix is confined by a photodegradable, synthetic net on top and bottom, mechanically (stitch) bound on two-inch centers. SC150 is intended for applications requiring up to twenty-four months of functional longevity. The material is fully degradable. The net and thread are photodegradable and the fiber matrix is biodegradable. Actual field longevity is dependent on soil and climatic conditions.



Each roll of SC150 is made in the USA and manufactured under Western Green's Quality Assurance Program to ensure a continuous distribution of fibers and consistent thickness.

Material Content		
Matrix	Straw/ Coconut Blend	
Netting	Top Net: Medium weight, Synthetic, Regular Degradable Bottom Net: Lightweight, Synthetic Regular Degradable	Double Net (black)
Thread	Synthetic, Regular Degradable	

Standard Roll Sizes				
Width	8 ft	(2.4 m)	16 ft	(4.9 m)
Length	112 ft	(34.1 m)	563 ft	(171.0 m)
Weight ± 10%	53 lb	(24.1 kg)	530 lb	(241.0 kg)
Area	100 sy	(83.6 m^2)	1000 SY	(836.0 m^2)

Material available in custom roll sizes

Approvals & Classification	
Classification	FHWA: Type 3.B / ECTC: Type 3.B
TTI Approvals	N/A
NTPEP Number	ECP-2019-03-013

Index Property	Test Method	Typical	
Thickness	ASTM D6525	0.30 in.	(8 mm)
Mass/Unit Area	ASTM D6566	8.5 oz/sy	(290 g/sm)
Tensile Strength – MD	ASTM D6818	150 lbs/ft	(2.2 kN/m)
Tensile Strength – TD	ASTM D6818	130 lbs/ft	(1.9 kN/m)
Elongation - MD	ASTM D6818	25%	
Elongation – TD	ASTM D6818	25%	
Density/Specific Gravity	D792	N/A	
Light Penetration	ASTM D6567	12%	
Biomass Improvement	ASTM D7322	500%	
Water Absorption	ASTM D1117	350%	

Design Parameters		
Property	**Unvegetated**	**Vegetated[3]**
RUSLE C Factor[2]	0.03	N/A
Slope Maximum Gradient[1]	2H:1V	N/A
Permissible Shear Stress[2]	2.0 psf (95 Pa)	N/A
Permissible Velocity[2]	8.0 fps (2.4 m/s)	N/A

Manning's n Roughness (HEC-15)		
τ_{lower}	τ_{mid}	τ_{upper}
0.045	0.036	0.031

1 Maximum Gradient a recomendation for typical insllations.

2 Hydraulic thresholds compliant with ASTM D6459/D6460 but generalized for typical applications.

3 Vegetated values dependent on established stand of vegetation

NORTH AMERICAN GREEN®

Rev. 4.2023

Scan for additional and updated product information, or click here.

Western Green • 4609 E. Boonville-New Harmony Rd.
Evansville, IN 47725 • (800) 772-2040

NEW ENGLAND WETLAND PLANTS, INC

820 WEST STREET, AMHERST, MA 01002

PHONE: 413-548-8000 FAX 413-549-4000

EMAIL: INFO@NEWP.COM WEB ADDRESS: WWW.NEWP.COM

New England Conservation/Wildlife Mix

Botanical Name	Common Name	Indicator
Elymus virginicus	Virginia Wild Rye	FACW-
Schizachyrium scoparium	Little Bluestem	FACU
Andropogon gerardii	Big Bluestem	FAC
Festuca rubra	Red Fescue	FACU
Sorghastrum nutans	Indian Grass	UPL
Panicum virgatum	Switch Grass	FAC
Chamaecrista fasciculata	Partridge Pea	FACU
Desmodium canadense	Showy Tick Trefoil	FAC
Asclepias tuberosa	Butterfly Milkweed	NI
Bidens frondosa	Beggar Ticks	FACW
Eupatorium purpureum (Eutrochium maculatum)	Purple Joe Pye Weed	FAC
Rudbeckia hirta	Black Eyed Susan	FACU-
Aster pilosus (Symphyotrichum pilosum)	Heath (or Hairy) Aster	UPL
Solidago juncea	Early Goldenrod	

PRICE PER LB. $39.50 MIN. QUANITY 2 LBS. **TOTAL:** $79.00 APPLY: 25 LBS/ACRE :1750 sq ft/lb

The New England Conservation/Wildlife Mix provides a permanent cover of grasses, wildflowers, and legumes For both good erosion control and wildlife habitat value. The mix is designed to be a no maintenance seeding, and is appropriate for cut and fill slopes, detention basin side slopes, and disturbed areas adjacent to commercial and residential projects.

New England Wetland Plants, Inc. may modify seed mixes at any time depending upon seed availability. The design criteria and ecological function of the mix will remain unchanged. Price is $/bulk pound, FOB warehouse, Plus SH and applicable taxes.

Parker Environmental Corporation
Creative Solutions for a Complicated Environment

September 27, 2024

Frank Deboise and Marguerite Mullaney
12 Oak Knoll Street
Worcester, MA 01609

RE: Limited Subsurface Investigation Report
12 Oak Knoll Street
Worcester, MA

Dear Mr. Deboise and Ms. Mullaney:

Parker Environmental Corporation (PEC) is pleased to provide you with this Limited Subsurface Investigation Report, summarizing the results of laboratory analysis performed on soil samples collected from a series of test pits excavated by you at the above referenced property.

As can be seen from the attached report, PEC **has not** identified a condition requiring notification to Massachusetts Department of Environmental Protection for the presence of oil or hazardous material based on the analyses performed as part of this Limited Subsurface Investigation.

If you have any questions or require additional information regarding this assessment, please do not hesitate to contact the undersigned.

Sincerely
Parker Environmental Corporation

Scott Parker LSP 9969
Project Manager

Ref: PEC/Project files/240802 Oak Knoll Worc/Final docs/240802 Oak Knoll LSI

Parker Environmental Corporation

Creative Solutions for a Complicated Environment

Limited Subsurface Investigation
12 Oak Knoll Street
Worcester, MA

September 2024

Prepared by:
Parker Environmental Corporation
97 Walnut Street
Clinton, MA 01510
978-273-4263

Prepared for:
Frank Deboise and
Marguerite Mullaney
12 Oak Knoll Street
Worcester, MA 01609

Table of Contents

APPENDICES

Introduction

Parker Environmental Corporation, (PEC) has performed a Limited Subsurface Investigation (LSI) for the property located at 12 Oak Knoll Street, in Worcester, Massachusetts, herein referred to as the Site. Please refer to Appendix A for Figures depicting the property location and boundaries. This assessment was conducted on behalf of the property owners, Frank Deboise and Margeurite Mullaney to evaluate soil conditions relative to the prior importation of material to the property from another property in Worcester, MA.

Purpose

The purpose of this LSI was to determine whether a reportable condition as defined in 310 CMR 40.0000 was present at the Site following the importation of fill material to the property.

Summary of LSI

Based on the results of the visual observations and laboratory analytical results, a reportable condition as defined in 310 CMR 40.0000 **HAS NOT** been identified during this investigation.

Scope

In order to investigate the potential for "environmental contamination" (i.e. hazardous material and/or petroleum products) to have impacted the property at a level requiring notification to the Massachusetts Department of Environmental Protection (MassDEP) associated with the potential presence of petroleum, metals and/or volatile organic compounds (VOCs) in soil imported to the property, Parker Environmental Corporation (PEC) performed a Limited Site Investigation (LSI). The investigation consisted of the excavation of seven test pits in the rear of the property. Six of these test pits were in the area subjected to filling. One test pit was excavated in an area reported to be native material. One grab sample was collected from the test pit excavated into the native material. The other two samples were collected as composite samples from three test pits each. Each of the three samples were placed in laboratory provided containers and preserved as necessary prior to delivery to the laboratory.

Test Pit Excavation

On August 28, 2024, PEC personal oversaw the excavation of seven test pits at the Oak Knoll property. Test pits were excavated using a track mounted excavator. Test pit locations are shown on Figure 2 included in Appendix A.

A test pit was excavated in area identified to be native material and the sample from this test pit was labeled "native". This sample was sub mitted for laboratory analysis for arsenic and lead only in order to represent background conditions for those constituents, given the documented, elevated arsenic concentrations on the Worcester area.

A total of six test pits were excavated in the fill material. Two samples collected from the fill material, with each sample (except the VOC sample) comprised of an individual aliquot from three individual test pits. Soil samples were placed in laboratory supplied containers and placed on ice or kept refrigerated until delivery to the laboratory. Based on the absence of visual/olfactory indicators, a random grab sample from one of the test pits was selected for VOC analysis.

Material encountered in the test pits consisted of fine to medium light brown sand and silt, occasional pieces of asphalt were observed, <5% by volume.

Laboratory analyses included the following parameters:

The following laboratory analyses were conducted on the soil samples collected from the fill material:

Total RCRA 8 Metals;
EPA Method 8270 - Semi-volatile Organic compounds (SVOCs);
EPA Method 8260 – Volatile Organic compounds (VOCs);
MassDEP MCP Extractable Petroleum Hydrocarbons (EPH) - fractions only;
MassDEP MCP Volatile Petroleum Hydrocarbons (VPH) - fractions only;

The following laboratory analyses were conducted on the soil sample collected from the native material:

Total Lead
Total Arsenic

Results of Investigation:

Summary of soil sample analytical results

Results of these analyses are summarized below and are directly compared to the Massachusetts Department of Environmental Protection (MassDEP) Reportable Concentrations for soil meeting the definition of S-1, (RCS1), in Table 1 included in Appendix B. A copy of the complete laboratory analytical report is included in Appendix C.

Extractable Petroleum Hydrocarbons

Extractable Petroleum Hydrocarbons EPH) compounds or fractions, were not reported above the RCS1 concentration in either sample submitted for analysis.

RCRA 8 Metals

Cadmium, selenium, silver, and mercury were not reported above the laboratory reporting limit in the two samples submitted for those analyses. Barium, chromium, and lead were reported in all of the samples analyzed for those constituents, at concentrations above the laboratory reporting limit and below RCS1.

Arsenic was reported in all three samples at a concentration above the RCS1 concentration of 20 mg/kg.

Volatile Organic Compounds

Volatile Organic compounds (VOCs), were not reported above the laboratory reporting limit in either of the samples submitted for analysis.

Volatile Petroleum Hydrocarbons

Volatile Petroleum Hydrocarbons (VPH) fractions, were not reported above the laboratory reporting limit in either of the samples submitted for analysis.

Findings and Conclusions

Evaluation of Arsenic

Arsenic was reported above RCS1 in all three samples at concentrations ranging from 23.6 mg/kg to 27.6 mg/kg. Historical aerial photos show the usage of the property as residential or undeveloped since 1960. Based on the historical usage as residential, and the prevalence of naturally occurring arsenic in soil in the Worcester area, as described in USGS Scientific Investigations Report 2011-5013, it is the Opinion of PEC, that the presence of arsenic above 20 mg/kg is naturally occurring. The concentration of arsenic in the samples collected from the fill material are considered to be consistent with that reported in the native material. Therefore, based on the criteria defined on 310 CMR 40.0317 (22) the results are considered to be exempt from the requirement to notify MassDEP of a release.

No other constituents were reported at a concentration exceeding RCS1, therefore; based on the results of the visual observations and laboratory analytical results, a reportable condition as defined in 310 CMR 40.0000 **HAS NOT** been identified during this investigation.

Recommendations

None

Limitations and Exceptions

This Limited Subsurface Investigation (LSI) is strictly limited in time, scope, budget restraints and to the dates of the evaluation. The conclusions presented herein are based solely on the services rendered as previously described. In addition, information obtained during this investigation were provided by others, as such, no guarantee on the validity of the data is expressed or implied with its intended usage in this LSI. The information is also subject to the limitations of historical documentation, availability and accuracy of records, and the personal recollection of those persons interviewed.

APPENDIX A
FIGURES

N
W E
S

0 500 1,000 2,000
Feet

Parker Environmental
Creative Solutions for a Complicated Environment

LOCUS MAP
12 OAK KNOLL ROAD
WORCESTER, MASSACHUSETTS

PARKER REF: LOCUS	
Drafted By: JAF	Date: 09/17/24
Source: MassGIS	

FIGURE 1

N
W E
S

0 12.5 25 50
Feet

PROJECT ASSESSOR PARCEL
OTHER ASSESSOR PARCELS
SAMPLE LOCATIONS

Parker Environmental
Creative Solutions for a Complicated Environment

SITE MAP
12 OAK KNOLL ROAD
WORCESTER, MASSACHUSETTS

\\Parker\Worc\12OakKnol\SiteMap.mxd
Drafted By: JAF | Date: 08/23/24
Source: MassGIS

FIGURE 2

APPENDIX B
Tables

APPENDIX C
Laboratory Analytical Reports

Table 1
Summary of Soil Sample Analytical Results
12 Oak Knoll Street
Worcester, MA

NETLAB Case Number: 4H29030	Native		Fill-1		Fill-1B		Fill-2		Fill-2B			
Lab Sample Number:	**4H29030-01**		**4H29030-02**		**4H29030-03**		**4H29030-04**		**4H29030-05**			
Date Sampled:	8/28/2024 9:30		8/28/2024 9:40		8/28/2024 9:40		8/28/2024 9:45		8/28/2024 9:45			
Date Received:	8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50			
Parameter	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Units	MOHML Reportable Concentration S-1
Extractable Petroleum Hydrocarbons (MADEP-EPH)												
Unadjusted C11-C22 Aromatic Hydrocarbons			ND	7.29			**11.1**	7.27			mg/kg	
C9-C18 Aliphatic Hydrocarbons			ND	14.5			ND	14.5			mg/kg	1000
C19-C36 Aliphatic Hydrocarbons			ND	14.5			**28.4**	14.5			mg/kg	3000
C11-C22 Aromatic Hydrocarbons			ND	7.29			**11.1**	7.27			mg/kg	1000
Semivolatile organic compounds												
1,2,4-Trichlorobenzene			ND	142			ND	284			ug/kg	2000
1,2-Dichlorobenzene			ND	142			ND	284			ug/kg	9000
1,3-Dichlorobenzene			ND	142			ND	284			ug/kg	3000
1,4-Dichlorobenzene			ND	142			ND	284			ug/kg	700
Phenol			ND	142			ND	284			ug/kg	900
2,4,5-Trichlorophenol			ND	142			ND	284			ug/kg	4000
2,4,6-Trichlorophenol			ND	142			ND	284			ug/kg	700
2,4-Dichlorophenol			ND	142			ND	284			ug/kg	700
2,4-Dimethylphenol			ND	361			ND	*720*			ug/kg	700
2,4-Dinitrophenol			ND	361			ND	720			ug/kg	3000
2,4-Dinitrotoluene			ND	142			ND	284			ug/kg	700
2,6-Dinitrotoluene			ND	142			ND	284			ug/kg	100000
2-Chloronaphthalene			ND	142			ND	284			ug/kg	1000000
2-Chlorophenol			ND	142			ND	284			ug/kg	700
2-Methylnaphthalene			ND	142			ND	284			ug/kg	700
Nitrobenzene			ND	142			ND	284			ug/kg	500000
2-Methylphenol			ND	142			ND	284			ug/kg	500000
2-Nitroaniline			ND	142			ND	284			ug/kg	
2-Nitrophenol			ND	361			ND	720			ug/kg	100000
3,3'-Dichlorobenzidine			ND	361			ND	720			ug/kg	3000
3-Nitroaniline			ND	142			ND	284			ug/kg	
4,6-Dinitro-2-methylphenol			ND	361			ND	720			ug/kg	50000
4-Bromophenyl phenyl ether			ND	142			ND	284			ug/kg	100000
4-Chloro-3-methylphenol			ND	142			ND	284			ug/kg	1000000
4-Chloroaniline			ND	142			ND	284			ug/kg	1000
4-Chlorophenyl phenyl ether			ND	142			ND	284			ug/kg	1000000
4-Nitroaniline			ND	142			ND	284			ug/kg	
4-Nitrophenol			ND	361			ND	720			ug/kg	100000
Acenaphthene			ND	142			ND	284			ug/kg	4000
Acenaphthylene			ND	142			ND	284			ug/kg	2000
Aniline			ND	142			ND	284			ug/kg	1000000
Anthracene			ND	142			ND	284			ug/kg	1000000
Benzo(a)anthracene			ND	142			ND	284			ug/kg	20000
Benzo(a)pyrene			ND	142			ND	284			ug/kg	2000
Benzo(b)fluoranthene			ND	142			ND	284			ug/kg	20000
Benzo(g,h,i)perylene			ND	142			ND	284			ug/kg	1000000
Benzo(k)fluoranthene			ND	142			ND	284			ug/kg	200000
Benzoic acid			ND	1090			ND	2180			ug/kg	1000000
Biphenyl			ND	22			ND	44			ug/kg	50
Bis(2-chloroethoxy)methane			ND	142			ND	284			ug/kg	500000
Bis(2-chloroethyl)ether			ND	142			ND	284			ug/kg	700
Bis(2-chloroisopropyl)ether			ND	142			ND	284			ug/kg	700
Bis(2-ethylhexyl)phthalate			ND	437			ND	872			ug/kg	100000
Butyl benzyl phthalate			ND	142			ND	284			ug/kg	100000
Chrysene			ND	142			ND	284			ug/kg	200000
Di-n-octyl phthalate			ND	219			ND	436			ug/kg	1000000
Dibenz(a,h)anthracene			ND	142			ND	284			ug/kg	2000
Dibenzofuran			ND	142			ND	284			ug/kg	100000
Diethyl phthalate			ND	142			ND	284			ug/kg	10000
Dimethyl phthalate			ND	361			ND	*720*			ug/kg	700
Di-n-butyl phthalate			ND	219			ND	436			ug/kg	50000
Fluoranthene			ND	142			ND	284			ug/kg	1000000
Fluorene			ND	142			ND	284			ug/kg	1000000
Hexachlorobenzene			ND	142			ND	284			ug/kg	700
Hexachlorobutadiene			ND	142			ND	284			ug/kg	30000
Hexachlorocyclopentadiene			ND	361			ND	720			ug/kg	50000
Hexachloroethane			ND	142			ND	284			ug/kg	700
Indeno(1,2,3-cd)pyrene			ND	142			ND	284			ug/kg	20000
Isophorone			ND	142			ND	284			ug/kg	100000
Naphthalene			ND	142			ND	284			ug/kg	4000
N-Nitrosodimethylamine			ND	142			ND	284			ug/kg	50000

Table 1
Summary of Soil Sample Analytical Results
12 Oak Knoll Street
Worcester, MA

NETLAB Case Number: 4H29030	**Native**		**Fill-1**		**Fill-1B**		**Fill-2**		**Fill-2B**			
Lab Sample Number:	**4H29030-01**		**4H29030-02**		**4H29030-03**		**4H29030-04**		**4H29030-05**			
Date Sampled:	8/28/2024 9:30		8/28/2024 9:40		8/28/2024 9:40		8/28/2024 9:45		8/28/2024 9:45			
Date Received:	8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50			
Parameter	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Units	MOHML Reportable Concentration S-1
N-Nitrosodi-n-propylamine			ND	142			ND	284			ug/kg	50000
N-Nitrosodiphenylamine			ND	142			ND	284			ug/kg	100000
Pentachlorophenol			ND	361			ND	720			ug/kg	3000
Phenanthrene			ND	142			ND	284			ug/kg	10000
Pyrene			ND	142			ND	284			ug/kg	1000000
m&p-Cresol			ND	284			ND	567			ug/kg	500000
Pyridine			ND	142			ND	284			ug/kg	500000
Azobenzene			ND	142			ND	284			ug/kg	
Total Dichlorobenzene			ND	142			ND	284			ug/kg	700
Total Metals												
Arsenic	**23.6**	1.1	**27.6**	1.17			**24.3**	1.14			mg/kg	**20**
Barium			**49.1**	0.39			**51.2**	0.38			mg/kg	1000
Cadmium			ND	0.59			ND	0.57			mg/kg	80
Chromium			**27.9**	0.59			**22.1**	0.57			mg/kg	100
Lead	**5.47**	0.55	**7.29**	0.59			**10.4**	0.57			mg/kg	200
Selenium			ND	1.17			ND	1.14			mg/kg	400
Silver			ND	1.17			ND	1.14			mg/kg	100
Mercury			ND	0.098			ND	0.099			mg/kg	20
Volatile Organic Compounds 8260C (5035-LL)												
Acetone					ND	123			ND	93	ug/kg	6000
Benzene					ND	6			ND	5	ug/kg	2000
Bromobenzene					ND	6			ND	5	ug/kg	100000
Bromochloromethane					ND	6			ND	5	ug/kg	
Bromodichloromethane					ND	6			ND	5	ug/kg	100
Bromoform					ND	6			ND	5	ug/kg	100
Bromomethane					ND	6			ND	5	ug/kg	500
2-Butanone					ND	123			ND	93	ug/kg	4000
tert-Butyl alcohol					ND	6			ND	5	ug/kg	100000
sec-Butylbenzene					ND	6			ND	5	ug/kg	
n-Butylbenzene					ND	6			ND	5	ug/kg	
tert-Butylbenzene					ND	6			ND	5	ug/kg	100000
Methyl t-butyl ether (MTBE)					ND	6			ND	5	ug/kg	100
Carbon Disulfide					ND	6			ND	5	ug/kg	100000
Carbon Tetrachloride					ND	6			ND	5	ug/kg	5000
Chlorobenzene					ND	6			ND	5	ug/kg	1000
Chloroethane					ND	6			ND	5	ug/kg	100000
Chloroform					ND	6			ND	5	ug/kg	200
Chloromethane					ND	6			ND	5	ug/kg	100000
4-Chlorotoluene					ND	6			ND	5	ug/kg	
2-Chlorotoluene					ND	6			ND	5	ug/kg	100000
1,2-Dibromo-3-chloropropane (DBCP)					ND	6			ND	5	ug/kg	10000
Dibromochloromethane					ND	*6*			ND	5	ug/kg	5
1,2-Dibromoethane (EDB)					ND	6			ND	5	ug/kg	100
Dibromomethane					ND	6			ND	5	ug/kg	500000
1,2-Dichlorobenzene					ND	6			ND	5	ug/kg	9000
1,3-Dichlorobenzene					ND	6			ND	5	ug/kg	3000
1,4-Dichlorobenzene					ND	6			ND	5	ug/kg	700
1,1-Dichloroethane					ND	6			ND	5	ug/kg	400
1,2-Dichloroethane					ND	6			ND	5	ug/kg	100
1,2 Dichloroethene, Total					ND	6			ND	5	ug/kg	300
trans-1,2-Dichloroethene					ND	6			ND	5	ug/kg	1000
cis-1,2-Dichloroethene					ND	6			ND	5	ug/kg	100
1,1-Dichloroethene					ND	6			ND	5	ug/kg	3000
1,2-Dichloropropane					ND	6			ND	5	ug/kg	100
2,2-Dichloropropane					ND	6			ND	5	ug/kg	
cis-1,3-Dichloropropene					ND	6			ND	5	ug/kg	10
trans-1,3-Dichloropropene					ND	6			ND	5	ug/kg	10
1,1-Dichloropropene					ND	6			ND	5	ug/kg	
1,3-Dichloropropene (cis + trans)					ND	6			ND	5	ug/kg	10
Diethyl ether					ND	6			ND	5	ug/kg	100000
1,4-Dioxane					ND	123			ND	93	ug/kg	200
Ethylbenzene					ND	6			ND	5	ug/kg	40000
Hexachlorobutadiene					ND	6			ND	5	ug/kg	30000
2-Hexanone					ND	123			ND	93	ug/kg	100000
Isopropylbenzene					ND	6			ND	5	ug/kg	1000000
p-Isopropyltoluene					ND	6			ND	5	ug/kg	100000
Methylene Chloride					ND	14			ND	11	ug/kg	100

Table 1
Summary of Soil Sample Analytical Results
12 Oak Knoll Street
Worcester, MA

NETLAB Case Number: 4H29030	**Native**		**Fill-1**		**Fill-1B**		**Fill-2**		**Fill-2B**			
Lab Sample Number:	**4H29030-01**		**4H29030-02**		**4H29030-03**		**4H29030-04**		**4H29030-05**			
Date Sampled:	8/28/2024 9:30		8/28/2024 9:40		8/28/2024 9:40		8/28/2024 9:45		8/28/2024 9:45			
Date Received:	8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50		8/29/2024 11:50			
Parameter	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Sample Result	Reporting Limit	Units	MOHML Reportable Concentration S-1
4-Methyl-2-pentanone					ND	123			ND	93	ug/kg	400
Naphthalene					ND	6			ND	5	ug/kg	4000
n-Propylbenzene					ND	6			ND	5	ug/kg	100000
Styrene					ND	6			ND	5	ug/kg	3000
1,1,1,2-Tetrachloroethane					ND	6			ND	5	ug/kg	100
Tetrachloroethene					ND	6			ND	5	ug/kg	1000
Tetrahydrofuran					ND	6			ND	5	ug/kg	500000
Toluene					ND	6			ND	5	ug/kg	30000
1,2,4-Trichlorobenzene					ND	6			ND	5	ug/kg	2000
1,2,3-Trichlorobenzene					ND	6			ND	5	ug/kg	
1,1,2-Trichloroethane					ND	6			ND	5	ug/kg	100
1,1,1-Trichloroethane					ND	6			ND	5	ug/kg	30000
Trichloroethene					ND	6			ND	5	ug/kg	300
1,2,3-Trichloropropane					ND	6			ND	5	ug/kg	100000
1,3,5-Trimethylbenzene					ND	6			ND	5	ug/kg	10000
1,2,4-Trimethylbenzene					ND	6			ND	5	ug/kg	1000000
Vinyl Chloride					ND	6			ND	5	ug/kg	300
o-Xylene					ND	6			ND	5	ug/kg	see Total xylenes
m&p-Xylene					ND	12			ND	9	ug/kg	see Total xylenes
Total xylenes					ND	6			ND	5	ug/kg	100000
1,1,2,2-Tetrachloroethane					ND	*6*			ND	5	ug/kg	5
tert-Amyl methyl ether					ND	6			ND	5	ug/kg	
1,3-Dichloropropane					ND	6			ND	5	ug/kg	500000
Ethyl tert-butyl ether					ND	6			ND	5	ug/kg	
Diisopropyl ether					ND	6			ND	5	ug/kg	100000
Trichlorofluoromethane					ND	6			ND	5	ug/kg	1000000
Dichlorodifluoromethane					ND	6			ND	5	ug/kg	1000000
Volatile Petroleum Hydrocarbons (MADEP-VPH)												
Unadjusted C5-C8 Aliphatic Hydrocarbons					ND	13.4			ND	14.3	mg/kg	
Unadjusted C9-C12 Aliphatic Hydrocarbons					ND	16.7			ND	17.9	mg/kg	
C5-C8 Aliphatic Hydrocarbons					ND	13.4			ND	14.3	mg/kg	100
C9-C12 Aliphatic Hydrocarbons					ND	16.7			ND	17.9	mg/kg	1000
C9-C10 Aromatic Hydrocarbons					ND	16.7			ND	17.9	mg/kg	100

Bold results shaded light blue are reported above the laboratory reporting limit

Results shaded pink are above the MassDEP RCS1 concentration

New England Testing Laboratory, Inc.
(401) 353-3420

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 4H29030
Client Project: Oak Knoll, Worcester

Report Date: 06-September-2024

Prepared for:

Scott Parker
Parker Environmental
PO Box 583
Clinton, MA 01510

Mike Mccallum, Laboratory Director
New England Testing Laboratory, Inc.
59 Greenhill Street
West Warwick, RI 02893
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Samples Submitted :

The samples listed below were submitted to New England Testing Laboratory on 08/29/24. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 4H29030. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
4H29030-01	Native	Soil	08/28/2024	08/29/2024
4H29030-02	Fill-1	Soil	08/28/2024	08/29/2024
4H29030-03	Fill-1B	Soil	08/28/2024	08/29/2024
4H29030-04	Fill-2	Soil	08/28/2024	08/29/2024
4H29030-05	Fill-2B	Soil	08/28/2024	08/29/2024

Request for Analysis

At the client's request, the analyses presented in the following table were performed on the samples submitted.

Fill-1 (Lab Number: 4H29030-02)

	Method
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
MADEP EPH	MADEP EPH
Mercury	EPA 7471B
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270E
Silver	EPA 6010C

Fill-1B (Lab Number: 4H29030-03)

	Method
MADEP VPH	MADEP VPH
Volatile Organic Compounds	EPA 8260D

Fill-2 (Lab Number: 4H29030-04)

	Method
Arsenic	EPA 6010C
Barium	EPA 6010C
Cadmium	EPA 6010C
Chromium	EPA 6010C
Lead	EPA 6010C
MADEP EPH	MADEP EPH
Mercury	EPA 7471B
Selenium	EPA 6010C
Semivolatile Organic Compounds	EPA 8270E
Silver	EPA 6010C

Fill-2B (Lab Number: 4H29030-05)

	Method
MADEP VPH	MADEP VPH
Volatile Organic Compounds	EPA 8260D

Native (Lab Number: 4H29030-01)

	Method
Arsenic	EPA 6010C
Lead	EPA 6010C

Method References

Method for the Determination of Extractable Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2004

Method for the Determination of Volatile Petroleum Hydrocarbons, Rev. 2.1, Massachusetts Department of Environmental Protection, 2018

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, USEPA

Case Narrative

Sample Receipt:

The samples associated with this work order were received in appropriately cooled and preserved containers. The chain of custody was adequately completed and corresponded to the samples submitted.

Exceptions: None

Analysis:

All samples were prepared and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control requirements and allowances. Results for all soil samples, unless otherwise indicated, are reported on a dry weight basis.

Exceptions:

8270: The sample "Fill-2" has one surrogate outside quality control limits due to matrix interference.

Results: Total Metals

Sample: Native

Lab Number: 4H29030-01 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**23.6**		1.10	mg/kg	08/30/24	09/04/24
Lead	**5.47**		0.55	mg/kg	08/30/24	09/04/24

Results: Total Metals

Sample: Fill-1

Lab Number: 4H29030-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**27.6**		1.17	mg/kg	08/30/24	09/04/24
Barium	**49.1**		0.39	mg/kg	08/30/24	09/04/24
Cadmium	ND		0.59	mg/kg	08/30/24	09/04/24
Chromium	**27.9**		0.59	mg/kg	08/30/24	09/04/24
Lead	**7.29**		0.59	mg/kg	08/30/24	09/04/24
Mercury	ND		0.098	mg/kg	08/30/24	09/03/24
Selenium	ND		1.17	mg/kg	08/30/24	09/04/24
Silver	ND		1.17	mg/kg	08/30/24	09/04/24

Results: Total Metals

Sample: Fill-2

Lab Number: 4H29030-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Arsenic	**24.3**		1.14	mg/kg	08/30/24	09/04/24
Barium	**51.2**		0.38	mg/kg	08/30/24	09/04/24
Cadmium	ND		0.57	mg/kg	08/30/24	09/04/24
Chromium	**22.1**		0.57	mg/kg	08/30/24	09/04/24
Lead	**10.4**		0.57	mg/kg	08/30/24	09/04/24
Mercury	ND		0.099	mg/kg	08/30/24	09/03/24
Selenium	ND		1.14	mg/kg	08/30/24	09/04/24
Silver	ND		1.14	mg/kg	08/30/24	09/04/24

Results: Volatile Organic Compounds 8260C (5035-LL)

Sample: Fill-1B

Lab Number: 4H29030-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		123	ug/kg	08/30/24	08/30/24
Benzene	ND		6	ug/kg	08/30/24	08/30/24
Bromobenzene	ND		6	ug/kg	08/30/24	08/30/24
Bromochloromethane	ND		6	ug/kg	08/30/24	08/30/24
Bromodichloromethane	ND		6	ug/kg	08/30/24	08/30/24
Bromoform	ND		6	ug/kg	08/30/24	08/30/24
Bromomethane	ND		6	ug/kg	08/30/24	08/30/24
2-Butanone	ND		123	ug/kg	08/30/24	08/30/24
tert-Butyl alcohol	ND		6	ug/kg	08/30/24	08/30/24
sec-Butylbenzene	ND		6	ug/kg	08/30/24	08/30/24
n-Butylbenzene	ND		6	ug/kg	08/30/24	08/30/24
tert-Butylbenzene	ND		6	ug/kg	08/30/24	08/30/24
Methyl t-butyl ether (MTBE)	ND		6	ug/kg	08/30/24	08/30/24
Carbon Disulfide	ND		6	ug/kg	08/30/24	08/30/24
Carbon Tetrachloride	ND		6	ug/kg	08/30/24	08/30/24
Chlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
Chloroethane	ND		6	ug/kg	08/30/24	08/30/24
Chloroform	ND		6	ug/kg	08/30/24	08/30/24
Chloromethane	ND		6	ug/kg	08/30/24	08/30/24
4-Chlorotoluene	ND		6	ug/kg	08/30/24	08/30/24
2-Chlorotoluene	ND		6	ug/kg	08/30/24	08/30/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		6	ug/kg	08/30/24	08/30/24
Dibromochloromethane	ND		6	ug/kg	08/30/24	08/30/24
1,2-Dibromoethane (EDB)	ND		6	ug/kg	08/30/24	08/30/24
Dibromomethane	ND		6	ug/kg	08/30/24	08/30/24
1,2-Dichlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
1,3-Dichlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
1,4-Dichlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
1,1-Dichloroethane	ND		6	ug/kg	08/30/24	08/30/24
1,2-Dichloroethane	ND		6	ug/kg	08/30/24	08/30/24
1,2 Dichloroethene, Total	ND		6	ug/kg	08/30/24	08/30/24
trans-1,2-Dichloroethene	ND		6	ug/kg	08/30/24	08/30/24
cis-1,2-Dichloroethene	ND		6	ug/kg	08/30/24	08/30/24
1,1-Dichloroethene	ND		6	ug/kg	08/30/24	08/30/24
1,2-Dichloropropane	ND		6	ug/kg	08/30/24	08/30/24
2,2-Dichloropropane	ND		6	ug/kg	08/30/24	08/30/24
cis-1,3-Dichloropropene	ND		6	ug/kg	08/30/24	08/30/24
trans-1,3-Dichloropropene	ND		6	ug/kg	08/30/24	08/30/24
1,1-Dichloropropene	ND		6	ug/kg	08/30/24	08/30/24
1,3-Dichloropropene (cis + trans)	ND		6	ug/kg	08/30/24	08/30/24
Diethyl ether	ND		6	ug/kg	08/30/24	08/30/24
1,4-Dioxane	ND		123	ug/kg	08/30/24	08/30/24
Ethylbenzene	ND		6	ug/kg	08/30/24	08/30/24
Hexachlorobutadiene	ND		6	ug/kg	08/30/24	08/30/24
2-Hexanone	ND		123	ug/kg	08/30/24	08/30/24
Isopropylbenzene	ND		6	ug/kg	08/30/24	08/30/24
p-Isopropyltoluene	ND		6	ug/kg	08/30/24	08/30

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: Fill-1B (Continued)

Lab Number: 4H29030-03 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		14	ug/kg	08/30/24	08/30/24
4-Methyl-2-pentanone	ND		123	ug/kg	08/30/24	08/30/24
Naphthalene	ND		6	ug/kg	08/30/24	08/30/24
n-Propylbenzene	ND		6	ug/kg	08/30/24	08/30/24
Styrene	ND		6	ug/kg	08/30/24	08/30/24
1,1,1,2-Tetrachloroethane	ND		6	ug/kg	08/30/24	08/30/24
Tetrachloroethene	ND		6	ug/kg	08/30/24	08/30/24
Tetrahydrofuran	ND		6	ug/kg	08/30/24	08/30/24
Toluene	ND		6	ug/kg	08/30/24	08/30/24
1,2,4-Trichlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
1,2,3-Trichlorobenzene	ND		6	ug/kg	08/30/24	08/30/24
1,1,2-Trichloroethane	ND		6	ug/kg	08/30/24	08/30/24
1,1,1-Trichloroethane	ND		6	ug/kg	08/30/24	08/30/24
Trichloroethene	ND		6	ug/kg	08/30/24	08/30/24
1,2,3-Trichloropropane	ND		6	ug/kg	08/30/24	08/30/24
1,3,5-Trimethylbenzene	ND		6	ug/kg	08/30/24	08/30/24
1,2,4-Trimethylbenzene	ND		6	ug/kg	08/30/24	08/30/24
Vinyl Chloride	ND		6	ug/kg	08/30/24	08/30/24
o-Xylene	ND		6	ug/kg	08/30/24	08/30/24
m&p-Xylene	ND		12	ug/kg	08/30/24	08/30/24
Total xylenes	ND		6	ug/kg	08/30/24	08/30/24
1,1,2,2-Tetrachloroethane	ND		6	ug/kg	08/30/24	08/30/24
tert-Amyl methyl ether	ND		6	ug/kg	08/30/24	08/30/24
1,3-Dichloropropane	ND		6	ug/kg	08/30/24	08/30/24
Ethyl tert-butyl ether	ND		6	ug/kg	08/30/24	08/30/24
Diisopropyl ether	ND		6	ug/kg	08/30/24	08/30/24
Trichlorofluoromethane	ND		6	ug/kg	08/30/24	08/30/24
Dichlorodifluoromethane	ND		6	ug/kg	08/30/24	08/30/24

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*96.0%*	*70-130*	08/30/24	08/30/24
1,2-Dichloroethane-d4	*106%*	*70-130*	08/30/24	08/30/24
Toluene-d8	*103%*	*70-130*	08/30/24	08/30/24

Results: Volatile Organic Compounds 8260C (5035-LL)

Sample: Fill-2B

Lab Number: 4H29030-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Acetone	ND		93	ug/kg	08/30/24	08/30/24
Benzene	ND		5	ug/kg	08/30/24	08/30/24
Bromobenzene	ND		5	ug/kg	08/30/24	08/30/24
Bromochloromethane	ND		5	ug/kg	08/30/24	08/30/24
Bromodichloromethane	ND		5	ug/kg	08/30/24	08/30/24
Bromoform	ND		5	ug/kg	08/30/24	08/30/24
Bromomethane	ND		5	ug/kg	08/30/24	08/30/24
2-Butanone	ND		93	ug/kg	08/30/24	08/30/24
tert-Butyl alcohol	ND		5	ug/kg	08/30/24	08/30/24
sec-Butylbenzene	ND		5	ug/kg	08/30/24	08/30/24
n-Butylbenzene	ND		5	ug/kg	08/30/24	08/30/24
tert-Butylbenzene	ND		5	ug/kg	08/30/24	08/30/24
Methyl t-butyl ether (MTBE)	ND		5	ug/kg	08/30/24	08/30/24
Carbon Disulfide	ND		5	ug/kg	08/30/24	08/30/24
Carbon Tetrachloride	ND		5	ug/kg	08/30/24	08/30/24
Chlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
Chloroethane	ND		5	ug/kg	08/30/24	08/30/24
Chloroform	ND		5	ug/kg	08/30/24	08/30/24
Chloromethane	ND		5	ug/kg	08/30/24	08/30/24
4-Chlorotoluene	ND		5	ug/kg	08/30/24	08/30/24
2-Chlorotoluene	ND		5	ug/kg	08/30/24	08/30/24
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg	08/30/24	08/30/24
Dibromochloromethane	ND		5	ug/kg	08/30/24	08/30/24
1,2-Dibromoethane (EDB)	ND		5	ug/kg	08/30/24	08/30/24
Dibromomethane	ND		5	ug/kg	08/30/24	08/30/24
1,2-Dichlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
1,3-Dichlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
1,4-Dichlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
1,1-Dichloroethane	ND		5	ug/kg	08/30/24	08/30/24
1,2-Dichloroethane	ND		5	ug/kg	08/30/24	08/30/24
1,2 Dichloroethene, Total	ND		5	ug/kg	08/30/24	08/30/24
trans-1,2-Dichloroethene	ND		5	ug/kg	08/30/24	08/30/24
cis-1,2-Dichloroethene	ND		5	ug/kg	08/30/24	08/30/24
1,1-Dichloroethene	ND		5	ug/kg	08/30/24	08/30/24
1,2-Dichloropropane	ND		5	ug/kg	08/30/24	08/30/24
2,2-Dichloropropane	ND		5	ug/kg	08/30/24	08/30/24
cis-1,3-Dichloropropene	ND		5	ug/kg	08/30/24	08/30/24
trans-1,3-Dichloropropene	ND		5	ug/kg	08/30/24	08/30/24
1,1-Dichloropropene	ND		5	ug/kg	08/30/24	08/30/24
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg	08/30/24	08/30/24
Diethyl ether	ND		5	ug/kg	08/30/24	08/30/24
1,4-Dioxane	ND		93	ug/kg	08/30/24	08/30/24
Ethylbenzene	ND		5	ug/kg	08/30/24	08/30/24
Hexachlorobutadiene	ND		5	ug/kg	08/30/24	08/30/24
2-Hexanone	ND		93	ug/kg	08/30/24	08/30/24
Isopropylbenzene	ND		5	ug/kg	08/30/24	08/30/24
p-Isopropyltoluene	ND		5	ug/kg	08/30/24	08/30

Results: Volatile Organic Compounds 8260C (5035-LL) (Continued)

Sample: Fill-2B (Continued)

Lab Number: 4H29030-05 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Methylene Chloride	ND		11	ug/kg	08/30/24	08/30/24
4-Methyl-2-pentanone	ND		93	ug/kg	08/30/24	08/30/24
Naphthalene	ND		5	ug/kg	08/30/24	08/30/24
n-Propylbenzene	ND		5	ug/kg	08/30/24	08/30/24
Styrene	ND		5	ug/kg	08/30/24	08/30/24
1,1,1,2-Tetrachloroethane	ND		5	ug/kg	08/30/24	08/30/24
Tetrachloroethene	ND		5	ug/kg	08/30/24	08/30/24
Tetrahydrofuran	ND		5	ug/kg	08/30/24	08/30/24
Toluene	ND		5	ug/kg	08/30/24	08/30/24
1,2,4-Trichlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
1,2,3-Trichlorobenzene	ND		5	ug/kg	08/30/24	08/30/24
1,1,2-Trichloroethane	ND		5	ug/kg	08/30/24	08/30/24
1,1,1-Trichloroethane	ND		5	ug/kg	08/30/24	08/30/24
Trichloroethene	ND		5	ug/kg	08/30/24	08/30/24
1,2,3-Trichloropropane	ND		5	ug/kg	08/30/24	08/30/24
1,3,5-Trimethylbenzene	ND		5	ug/kg	08/30/24	08/30/24
1,2,4-Trimethylbenzene	ND		5	ug/kg	08/30/24	08/30/24
Vinyl Chloride	ND		5	ug/kg	08/30/24	08/30/24
o-Xylene	ND		5	ug/kg	08/30/24	08/30/24
m&p-Xylene	ND		9	ug/kg	08/30/24	08/30/24
Total xylenes	ND		5	ug/kg	08/30/24	08/30/24
1,1,2,2-Tetrachloroethane	ND		5	ug/kg	08/30/24	08/30/24
tert-Amyl methyl ether	ND		5	ug/kg	08/30/24	08/30/24
1,3-Dichloropropane	ND		5	ug/kg	08/30/24	08/30/24
Ethyl tert-butyl ether	ND		5	ug/kg	08/30/24	08/30/24
Diisopropyl ether	ND		5	ug/kg	08/30/24	08/30/24
Trichlorofluoromethane	ND		5	ug/kg	08/30/24	08/30/24
Dichlorodifluoromethane	ND		5	ug/kg	08/30/24	08/30/24

Surrogate(s)	Recovery%	Limits		
4-Bromofluorobenzene	*96.9%*	*70-130*	08/30/24	08/30/24
1,2-Dichloroethane-d4	*99.7%*	*70-130*	08/30/24	08/30/24
Toluene-d8	*103%*	*70-130*	08/30/24	08/30/24

Volatile Petroleum Hydrocarbons
Sample: Fill-1B (4H29030-03)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	ml methanol per gram soil: 1:1 +/- 25%
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1			Client ID		Fill-1B	
Method for Target Analytes: MADEP VPH-18-2.1			Lab ID		4H29030-03	
VPH Surrogate Standards:			Date Collected		08/28/24	
PID: 2,5-Dibromotoluene			Date Received		08/29/24	
FID: 2,5-Dibromotoluene			% Moisture		9.20	
RANGE/TARGET ANALYTE	**Elution Range**	**Dilution**	**RL**	**Units**	**Result**	**Analyzed**
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	13.4	mg/kg	<13.4	09/03/24 18:00
Unadjusted C9-C12 Aliphatic Hydrocarbons [1]	NA	50X	16.7	mg/kg	<16.7	09/03/24 18:00
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	13.4	mg/kg	<13.4	09/03/24 18:00
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	16.7	mg/kg	<16.7	09/03/24 18:00
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	16.7	mg/kg	<16.7	09/03/24 18:00
2,5-Dibromotoluene-PID				%	103	09/03/24 18:00
2,5-Dibromotoluene-FID				%	106	09/03/24 18:00
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range
[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

Volatile Petroleum Hydrocarbons
Sample: Fill-2B (4H29030-05)

SAMPLE INFORMATION

Matrix	Soil		
Containers	Satisfactory		
Sample Preservation	Aqueous	NA	
	Soil or Sediment	Preserved with methanol and/or in an air-tight container	ml methanol per gram soil: 1:1 +/- 25%
		Methanol preserved (covering sample)	
		Received in air-tight container	
Temperature	Received on Ice Received at: 4+/-2 C°		

VPH ANALYTICAL RESULTS

Method for Ranges: MADEP VPH-18-2.1				Client ID	Fill-2B	
Method for Target Analytes: MADEP VPH-18-2.1				Lab ID	4H29030-05	
VPH Surrogate Standards:				Date Collected	08/28/24	
PID: 2,5-Dibromotoluene				Date Received	08/29/24	
FID: 2,5-Dibromotoluene				% Moisture	8.90	
RANGE/TARGET ANALYTE	**Elution Range**	**Dilution**	**RL**	**Units**	**Result**	**Analyzed**
Unadjusted C5-C8 Aliphatic Hydrocarbons [1]	NA	50X	14.3	mg/kg	<14.3	09/03/24 18:33
Unadjusted C9-C12 Aliphatic Hydrocarbons [1]	NA	50X	17.9	mg/kg	<17.9	09/03/24 18:33
C5-C8 Aliphatic Hydrocarbons [1,2]	NA	50X	14.3	mg/kg	<14.3	09/03/24 18:33
C9-C12 Aliphatic Hydrocarbons [1,3]	NA	50X	17.9	mg/kg	<17.9	09/03/24 18:33
C9-C10 Aromatic Hydrocarbons [1]	NA	50X	17.9	mg/kg	<17.9	09/03/24 18:33
2,5-Dibromotoluene-PID				%	105	09/03/24 18:33
2,5-Dibromotoluene-FID				%	98.6	09/03/24 18:33
Surrogate Acceptance Range				%	70-130	

[1] Hydrocarbon Range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range
[2] C5-C8 Aliphatic Hydrocarbons exclude the concentration of Target Analytes eluting in that range
[3] C9-C12 Aliphatic Hydrocarbons exclude conc of Target Analytes eluting in that range AND concentration of C9-C10 Aromatic Hydrocarbons

Results: Semivolatile organic compounds

Sample: Fill-1

Lab Number: 4H29030-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		142	ug/kg	08/30/24	09/04/24
1,2-Dichlorobenzene	ND		142	ug/kg	08/30/24	09/04/24
1,3-Dichlorobenzene	ND		142	ug/kg	08/30/24	09/04/24
1,4-Dichlorobenzene	ND		142	ug/kg	08/30/24	09/04/24
Phenol	ND		142	ug/kg	08/30/24	09/04/24
2,4,5-Trichlorophenol	ND		142	ug/kg	08/30/24	09/04/24
2,4,6-Trichlorophenol	ND		142	ug/kg	08/30/24	09/04/24
2,4-Dichlorophenol	ND		142	ug/kg	08/30/24	09/04/24
2,4-Dimethylphenol	ND		361	ug/kg	08/30/24	09/04/24
2,4-Dinitrophenol	ND		361	ug/kg	08/30/24	09/04/24
2,4-Dinitrotoluene	ND		142	ug/kg	08/30/24	09/04/24
2,6-Dinitrotoluene	ND		142	ug/kg	08/30/24	09/04/24
2-Chloronaphthalene	ND		142	ug/kg	08/30/24	09/04/24
2-Chlorophenol	ND		142	ug/kg	08/30/24	09/04/24
2-Methylnaphthalene	ND		142	ug/kg	08/30/24	09/04/24
Nitrobenzene	ND		142	ug/kg	08/30/24	09/04/24
2-Methylphenol	ND		142	ug/kg	08/30/24	09/04/24
2-Nitroaniline	ND		142	ug/kg	08/30/24	09/04/24
2-Nitrophenol	ND		361	ug/kg	08/30/24	09/04/24
3,3'-Dichlorobenzidine	ND		361	ug/kg	08/30/24	09/04/24
3-Nitroaniline	ND		142	ug/kg	08/30/24	09/04/24
4,6-Dinitro-2-methylphenol	ND		361	ug/kg	08/30/24	09/04/24
4-Bromophenyl phenyl ether	ND		142	ug/kg	08/30/24	09/04/24
4-Chloro-3-methylphenol	ND		142	ug/kg	08/30/24	09/04/24
4-Chloroaniline	ND		142	ug/kg	08/30/24	09/04/24
4-Chlorophenyl phenyl ether	ND		142	ug/kg	08/30/24	09/04/24
4-Nitroaniline	ND		142	ug/kg	08/30/24	09/04/24
4-Nitrophenol	ND		361	ug/kg	08/30/24	09/04/24
Acenaphthene	ND		142	ug/kg	08/30/24	09/04/24
Acenaphthylene	ND		142	ug/kg	08/30/24	09/04/24
Aniline	ND		142	ug/kg	08/30/24	09/04/24
Anthracene	ND		142	ug/kg	08/30/24	09/04/24
Benzo(a)anthracene	ND		142	ug/kg	08/30/24	09/04/24
Benzo(a)pyrene	ND		142	ug/kg	08/30/24	09/04/24
Benzo(b)fluoranthene	ND		142	ug/kg	08/30/24	09/04/24
Benzo(g,h,i)perylene	ND		142	ug/kg	08/30/24	09/04/24
Benzo(k)fluoranthene	ND		142	ug/kg	08/30/24	09/04/24
Benzoic acid	ND		1090	ug/kg	08/30/24	09/04/24
Biphenyl	ND		22	ug/kg	08/30/24	09/04/24
Bis(2-chloroethoxy)methane	ND		142	ug/kg	08/30/24	09/04/24
Bis(2-chloroethyl)ether	ND		142	ug/kg	08/30/24	09/04/24
Bis(2-chloroisopropyl)ether	ND		142	ug/kg	08/30/24	09/04/24
Bis(2-ethylhexyl)phthalate	ND		437	ug/kg	08/30/24	09/04/24
Butyl benzyl phthalate	ND		142	ug/kg	08/30/24	09/04/24
Chrysene	ND		142	ug/kg	08/30/24	09/04/24
Di-n-octyl phthalate	ND		219	ug/kg	08/30/24	09/04/24
Dibenz(a,h)anthracene	ND		142	ug/kg	08/30/24	09/04/24

Results: Semivolatile organic compounds (Continued)

Sample: Fill-1 (Continued)

Lab Number: 4H29030-02 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Dibenzofuran	ND		142	ug/kg	08/30/24	09/04/24
Diethyl phthalate	ND		142	ug/kg	08/30/24	09/04/24
Dimethyl phthalate	ND		361	ug/kg	08/30/24	09/04/24
Di-n-butyl phthalate	ND		219	ug/kg	08/30/24	09/04/24
Fluoranthene	ND		142	ug/kg	08/30/24	09/04/24
Fluorene	ND		142	ug/kg	08/30/24	09/04/24
Hexachlorobenzene	ND		142	ug/kg	08/30/24	09/04/24
Hexachlorobutadiene	ND		142	ug/kg	08/30/24	09/04/24
Hexachlorocyclopentadiene	ND		361	ug/kg	08/30/24	09/04/24
Hexachloroethane	ND		142	ug/kg	08/30/24	09/04/24
Indeno(1,2,3-cd)pyrene	ND		142	ug/kg	08/30/24	09/04/24
Isophorone	ND		142	ug/kg	08/30/24	09/04/24
Naphthalene	ND		142	ug/kg	08/30/24	09/04/24
N-Nitrosodimethylamine	ND		142	ug/kg	08/30/24	09/04/24
N-Nitrosodi-n-propylamine	ND		142	ug/kg	08/30/24	09/04/24
N-Nitrosodiphenylamine	ND		142	ug/kg	08/30/24	09/04/24
Pentachlorophenol	ND		361	ug/kg	08/30/24	09/04/24
Phenanthrene	ND		142	ug/kg	08/30/24	09/04/24
Pyrene	ND		142	ug/kg	08/30/24	09/04/24
m&p-Cresol	ND		284	ug/kg	08/30/24	09/04/24
Pyridine	ND		142	ug/kg	08/30/24	09/04/24
Azobenzene	ND		142	ug/kg	08/30/24	09/04/24
Total Dichlorobenzene	ND		142	ug/kg	08/30/24	09/04/24

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*59.0%*	*30-126*	08/30/24	09/04/24
p-Terphenyl-d14	*75.5%*	*47-130*	08/30/24	09/04/24
2-Fluorobiphenyl	*58.7%*	*34-130*	08/30/24	09/04/24
Phenol-d6	*61.7%*	*30-130*	08/30/24	09/04/24
2,4,6-Tribromophenol	*75.3%*	*30-130*	08/30/24	09/04/24
2-Fluorophenol	*52.7%*	*30-130*	08/30/24	09/04/24

Results: Semivolatile organic compounds

Sample: Fill-2

Lab Number: 4H29030-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
1,2,4-Trichlorobenzene	ND		284	ug/kg	08/30/24	09/05/24
1,2-Dichlorobenzene	ND		284	ug/kg	08/30/24	09/05/24
1,3-Dichlorobenzene	ND		284	ug/kg	08/30/24	09/05/24
1,4-Dichlorobenzene	ND		284	ug/kg	08/30/24	09/05/24
Phenol	ND		284	ug/kg	08/30/24	09/05/24
2,4,5-Trichlorophenol	ND		284	ug/kg	08/30/24	09/05/24
2,4,6-Trichlorophenol	ND		284	ug/kg	08/30/24	09/05/24
2,4-Dichlorophenol	ND		284	ug/kg	08/30/24	09/05/24
2,4-Dimethylphenol	ND		720	ug/kg	08/30/24	09/05/24
2,4-Dinitrophenol	ND		720	ug/kg	08/30/24	09/05/24
2,4-Dinitrotoluene	ND		284	ug/kg	08/30/24	09/05/24
2,6-Dinitrotoluene	ND		284	ug/kg	08/30/24	09/05/24
2-Chloronaphthalene	ND		284	ug/kg	08/30/24	09/05/24
2-Chlorophenol	ND		284	ug/kg	08/30/24	09/05/24
2-Methylnaphthalene	ND		284	ug/kg	08/30/24	09/05/24
Nitrobenzene	ND		284	ug/kg	08/30/24	09/05/24
2-Methylphenol	ND		284	ug/kg	08/30/24	09/05/24
2-Nitroaniline	ND		284	ug/kg	08/30/24	09/05/24
2-Nitrophenol	ND		720	ug/kg	08/30/24	09/05/24
3,3'-Dichlorobenzidine	ND		720	ug/kg	08/30/24	09/05/24
3-Nitroaniline	ND		284	ug/kg	08/30/24	09/05/24
4,6-Dinitro-2-methylphenol	ND		720	ug/kg	08/30/24	09/05/24
4-Bromophenyl phenyl ether	ND		284	ug/kg	08/30/24	09/05/24
4-Chloro-3-methylphenol	ND		284	ug/kg	08/30/24	09/05/24
4-Chloroaniline	ND		284	ug/kg	08/30/24	09/05/24
4-Chlorophenyl phenyl ether	ND		284	ug/kg	08/30/24	09/05/24
4-Nitroaniline	ND		284	ug/kg	08/30/24	09/05/24
4-Nitrophenol	ND		720	ug/kg	08/30/24	09/05/24
Acenaphthene	ND		284	ug/kg	08/30/24	09/05/24
Acenaphthylene	ND		284	ug/kg	08/30/24	09/05/24
Aniline	ND		284	ug/kg	08/30/24	09/05/24
Anthracene	ND		284	ug/kg	08/30/24	09/05/24
Benzo(a)anthracene	ND		284	ug/kg	08/30/24	09/05/24
Benzo(a)pyrene	ND		284	ug/kg	08/30/24	09/05/24
Benzo(b)fluoranthene	ND		284	ug/kg	08/30/24	09/05/24
Benzo(g,h,i)perylene	ND		284	ug/kg	08/30/24	09/05/24
Benzo(k)fluoranthene	ND		284	ug/kg	08/30/24	09/05/24
Benzoic acid	ND		2180	ug/kg	08/30/24	09/05/24
Biphenyl	ND		44	ug/kg	08/30/24	09/05/24
Bis(2-chloroethoxy)methane	ND		284	ug/kg	08/30/24	09/05/24
Bis(2-chloroethyl)ether	ND		284	ug/kg	08/30/24	09/05/24
Bis(2-chloroisopropyl)ether	ND		284	ug/kg	08/30/24	09/05/24
Bis(2-ethylhexyl)phthalate	ND		872	ug/kg	08/30/24	09/05/24
Butyl benzyl phthalate	ND		284	ug/kg	08/30/24	09/05/24
Chrysene	ND		284	ug/kg	08/30/24	09/05/24
Di-n-octyl phthalate	ND		436	ug/kg	08/30/24	09/05/24
Dibenz(a,h)anthracene	ND		284	ug/kg	08/30/24	09/05/24

Results: Semivolatile organic compounds (Continued)

Sample: Fill-2 (Continued)

Lab Number: 4H29030-04 (Soil)

Analyte	Result	Qual	Reporting Limit	Units	Date Prepared	Date Analyzed
Dibenzofuran	ND		284	ug/kg	08/30/24	09/05/24
Diethyl phthalate	ND		284	ug/kg	08/30/24	09/05/24
Dimethyl phthalate	ND		720	ug/kg	08/30/24	09/05/24
Di-n-butyl phthalate	ND		436	ug/kg	08/30/24	09/05/24
Fluoranthene	ND		284	ug/kg	08/30/24	09/05/24
Fluorene	ND		284	ug/kg	08/30/24	09/05/24
Hexachlorobenzene	ND		284	ug/kg	08/30/24	09/05/24
Hexachlorobutadiene	ND		284	ug/kg	08/30/24	09/05/24
Hexachlorocyclopentadiene	ND		720	ug/kg	08/30/24	09/05/24
Hexachloroethane	ND		284	ug/kg	08/30/24	09/05/24
Indeno(1,2,3-cd)pyrene	ND		284	ug/kg	08/30/24	09/05/24
Isophorone	ND		284	ug/kg	08/30/24	09/05/24
Naphthalene	ND		284	ug/kg	08/30/24	09/05/24
N-Nitrosodimethylamine	ND		284	ug/kg	08/30/24	09/05/24
N-Nitrosodi-n-propylamine	ND		284	ug/kg	08/30/24	09/05/24
N-Nitrosodiphenylamine	ND		284	ug/kg	08/30/24	09/05/24
Pentachlorophenol	ND		720	ug/kg	08/30/24	09/05/24
Phenanthrene	ND		284	ug/kg	08/30/24	09/05/24
Pyrene	ND		284	ug/kg	08/30/24	09/05/24
m&p-Cresol	ND		567	ug/kg	08/30/24	09/05/24
Pyridine	ND		284	ug/kg	08/30/24	09/05/24
Azobenzene	ND		284	ug/kg	08/30/24	09/05/24
Total Dichlorobenzene	ND		284	ug/kg	08/30/24	09/05/24

Surrogate(s)	Recovery%	Limits		
Nitrobenzene-d5	*92.2%*	*30-126*	08/30/24	09/05/24
p-Terphenyl-d14	*153%*	*47-130*	08/30/24	09/05/24
2-Fluorobiphenyl	*93.2%*	*34-130*	08/30/24	09/05/24
Phenol-d6	*98.6%*	*30-130*	08/30/24	09/05/24
2,4,6-Tribromophenol	*112%*	*30-130*	08/30/24	09/05/24
2-Fluorophenol	*81.3%*	*30-130*	08/30/24	09/05/24

Extractable Petroleum Hydrocarbons
Sample: Fill-1 (4H29030-02)

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1	Client ID	Fill-1
Method for Target Analytes: MADEP EPH 4-1.1	Lab ID	4H29030-02
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	08/28/24
	Date Received	08/29/24
	Date Thawed	NA
	Date Extracted	09/03/24
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene	Percent Moisture	9.20

RANGE/TARGET ANALYTE	Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]	1X	7.29	mg/kg	<7.29	09/04/24 21:04
C9-C18 Aliphatic Hydrocarbons [1]	1X	14.5	mg/kg	<14.5	09/04/24 19:46
C19-C36 Aliphatic Hydrocarbons [1]	1X	14.5	mg/kg	<14.5	09/04/24 19:46
C11-C22 Aromatic Hydrocarbons [1,2]	1X	7.29	mg/kg	<7.29	09/04/24 21:04
Chlorooctadecane (Sample Surrogate)			%	53.2	09/04/24 19:46
o-Terphenyl (Sample Surrogate)			%	45.7	09/04/24 21:04
2-Fluorobiphenyl (Fractionation Surrogate)			%	70.7	09/04/24 21:04
2-Bromonaphthalene (Fractionation Surrogate)			%	68.1	09/04/24 21:04
Surrogate Acceptance Range [3]			%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.
[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.
[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Extractable Petroleum Hydrocarbons
Sample: Fill-2 (4H29030-04)

SAMPLE INFORMATION

Matrix	Soil
Containers	Satisfactory
Aqueous Preservatives	NA
Temperature	Received on Ice Received at: 4+/-2 C°
Extraction Method	EPA Method 3546

EPH ANALYTICAL RESULTS

Method for Ranges: MADEP EPH 4-1.1	Client ID	Fill-2
Method for Target Analytes: MADEP EPH 4-1.1	Lab ID	4H29030-04
EPH Surrogate Standards: Aliphatic: Chlorooctadecane Aromatic: o-Terphenyl	Date Collected	08/28/24
	Date Received	08/29/24
	Date Thawed	NA
	Date Extracted	09/03/24
EPH Fractionation Surrogates: (1) 2-Fluorobiphenyl (2) 2-Bromonaphthalene	Percent Moisture	8.90

RANGE/TARGET ANALYTE	Dilution	RL	Units	Result	Analyzed
Unadjusted C11-C22 Aromatic Hydrocarbons [1]	1X	7.27	mg/kg	**11.1**	09/04/24 23:45
C9-C18 Aliphatic Hydrocarbons [1]	1X	14.5	mg/kg	<14.5	09/04/24 22:14
C19-C36 Aliphatic Hydrocarbons [1]	1X	14.5	mg/kg	**28.4**	09/04/24 22:14
C11-C22 Aromatic Hydrocarbons [1,2]	1X	7.27	mg/kg	**11.1**	09/04/24 23:45
Chlorooctadecane (Sample Surrogate)			%	60.4	09/04/24 22:14
o-Terphenyl (Sample Surrogate)			%	47.6	09/04/24 23:45
2-Fluorobiphenyl (Fractionation Surrogate)			%	66.1	09/04/24 23:45
2-Bromonaphthalene (Fractionation Surrogate)			%	52.5	09/04/24 23:45
Surrogate Acceptance Range [3]			%	40 - 140	

[1] Hydrocarbon range data excludes area counts of any surrogate(s) and/or internal standards eluting in that range.
[2] C11-C22 Aromatic Hydrocarbons excludes the concentration of Target PAH Analytes.
[3] See the case narrative in cases where a dash (-) is entered in the surrogate recovery block.

Quality Control

Total Metals

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1254 - Metals Digestion Soils										
Blank (B4H1254-BLK1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Barium	ND		0.33	mg/kg						
Silver	ND		1.00	mg/kg						
Arsenic	ND		1.00	mg/kg						
Cadmium	ND		0.50	mg/kg						
Chromium	ND		0.50	mg/kg						
Selenium	ND		1.00	mg/kg						
Lead	ND		0.50	mg/kg						
LCS (B4H1254-BS1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Silver	43.1		1.00	mg/kg	40.0		108	85-115		
Chromium	99.5		0.50	mg/kg	100		99.5	85-115		
Lead	101		0.50	mg/kg	100		101	85-115		
Cadmium	97.2		0.50	mg/kg	100		97.2	85-115		
Barium	99.8		0.33	mg/kg	100		99.8	85-115		
Selenium	19.3		1.00	mg/kg	20.0		96.3	85-115		
Arsenic	19.9		1.00	mg/kg	20.0		99.6	85-115		
Batch: B4H1268 - Metals Cold-Vapor Mercury										
Blank (B4H1268-BLK1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Mercury	ND		0.100	mg/kg						
LCS (B4H1268-BS1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Mercury	4.93			ug/l	5.00		98.6	93-114		

Volatile Organic Compounds 8260C (5035-LL)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1246 - EPA 5035										
Blank (B4H1246-BLK1)					Prepared & Analyzed: 08/30/24					
Acetone	ND		100	ug/kg						
Benzene	ND		5	ug/kg						
Bromobenzene	ND		5	ug/kg						
Bromochloromethane	ND		5	ug/kg						
Bromodichloromethane	ND		5	ug/kg						
Bromoform	ND		5	ug/kg						
Bromomethane	ND		5	ug/kg						
2-Butanone	ND		100	ug/kg						
tert-Butyl alcohol	ND		5	ug/kg						
sec-Butylbenzene	ND		5	ug/kg						
n-Butylbenzene	ND		5	ug/kg						
tert-Butylbenzene	ND		5	ug/kg						
Methyl t-butyl ether (MTBE)	ND		5	ug/kg						
Carbon Disulfide	ND		5	ug/kg						
Carbon Tetrachloride	ND		5	ug/kg						
Chlorobenzene	ND		5	ug/kg						
Chloroethane	ND		5	ug/kg						
Chloroform	ND		5	ug/kg						
Chloromethane	ND		5	ug/kg						
4-Chlorotoluene	ND		5	ug/kg						
2-Chlorotoluene	ND		5	ug/kg						
1,2-Dibromo-3-chloropropane (DBCP)	ND		5	ug/kg						
Dibromochloromethane	ND		5	ug/kg						
1,2-Dibromoethane (EDB)	ND		5	ug/kg						
Dibromomethane	ND		5	ug/kg						
1,2-Dichlorobenzene	ND		5	ug/kg						
1,3-Dichlorobenzene	ND		5	ug/kg						
1,4-Dichlorobenzene	ND		5	ug/kg						
1,1-Dichloroethane	ND		5	ug/kg						
1,2-Dichloroethane	ND		5	ug/kg						
trans-1,2-Dichloroethene	ND		5	ug/kg						
1,2 Dichloroethene, Total	ND		5	ug/kg						
cis-1,2-Dichloroethene	ND		5	ug/kg						
1,1-Dichloroethene	ND		5	ug/kg						
1,2-Dichloropropane	ND		5	ug/kg						
2,2-Dichloropropane	ND		5	ug/kg						
cis-1,3-Dichloropropene	ND		5	ug/kg						
trans-1,3-Dichloropropene	ND		5	ug/kg						
1,1-Dichloropropene	ND		5	ug/kg						
1,3-Dichloropropene (cis + trans)	ND		5	ug/kg						
Diethyl ether	ND		5	ug/kg						
1,4-Dioxane	ND		100	ug/kg						
Ethylbenzene	ND		5	ug/kg						
Hexachlorobutadiene	ND		5	ug/kg						
2-Hexanone	ND		100	ug/kg						
Isopropylbenzene	ND		5	ug/kg						
p-Isopropyltoluene	ND		5	ug/kg						
Methylene Chloride	ND		5	ug/kg						
4-Methyl-2-pentanone	ND		100	ug/kg						
Naphthalene	ND		5	ug/kg						
n-Propylbenzene	ND		5	ug/kg						
Styrene	ND		5	ug/kg						
1,1,1,2-Tetrachloroethane	ND		5	ug/kg						
Tetrachloroethene	ND		5	ug/kg						
Tetrahydrofuran	ND		5	ug/kg						
Toluene	ND		5	ug/kg						
1,2,4-Trichlorobenzene	ND		5	ug/kg						

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1246 - EPA 5035 (Continued)										
Blank (B4H1246-BLK1)					Prepared & Analyzed: 08/30/24					
1,2,3-Trichlorobenzene	ND		5	ug/kg						
1,1,2-Trichloroethane	ND		5	ug/kg						
1,1,1-Trichloroethane	ND		5	ug/kg						
Trichloroethene	ND		5	ug/kg						
1,2,3-Trichloropropane	ND		5	ug/kg						
1,3,5-Trimethylbenzene	ND		5	ug/kg						
1,2,4-Trimethylbenzene	ND		5	ug/kg						
Vinyl Chloride	ND		5	ug/kg						
o-Xylene	ND		5	ug/kg						
m&p-Xylene	ND		10	ug/kg						
Total xylenes	ND		5	ug/kg						
1,1,2,2-Tetrachloroethane	ND		5	ug/kg						
tert-Amyl methyl ether	ND		5	ug/kg						
1,3-Dichloropropane	ND		5	ug/kg						
Ethyl tert-butyl ether	ND		5	ug/kg						
Diisopropyl ether	ND		5	ug/kg						
Trichlorofluoromethane	ND		5	ug/kg						
Dichlorodifluoromethane	ND		5	ug/kg						
Surrogate: 4-Bromofluorobenzene			*48.7*	ug/kg	*50.0*		*97.5*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*53.9*	ug/kg	*50.0*		*108*	*70-130*		
Surrogate: Toluene-d8			*49.7*	ug/kg	*50.0*		*99.5*	*70-130*		
LCS (B4H1246-BS1)					Prepared & Analyzed: 08/30/24					
Acetone	41		5	ug/kg	50.0		82.2	50-150		
Benzene	46		5	ug/kg	50.0		91.2	70-130		
Bromobenzene	45		5	ug/kg	50.0		90.0	70-130		
Bromochloromethane	47		5	ug/kg	50.0		94.8	70-130		
Bromodichloromethane	49		5	ug/kg	50.0		97.0	70-130		
Bromoform	42		5	ug/kg	50.0		83.7	70-130		
Bromomethane	42		5	ug/kg	50.0		83.5	50-150		
2-Butanone	40		5	ug/kg	50.0		80.7	50-150		
tert-Butyl alcohol	37		5	ug/kg	50.0		74.4	70-130		
sec-Butylbenzene	47		5	ug/kg	50.0		93.5	70-130		
n-Butylbenzene	45		5	ug/kg	50.0		89.8	70-130		
tert-Butylbenzene	46		5	ug/kg	50.0		91.5	70-130		
Methyl t-butyl ether (MTBE)	46		5	ug/kg	50.0		92.9	70-130		
Carbon Disulfide	52		5	ug/kg	50.0		104	50-150		
Carbon Tetrachloride	44		5	ug/kg	50.0		87.5	70-130		
Chlorobenzene	45		5	ug/kg	50.0		89.4	70-130		
Chloroethane	40		5	ug/kg	50.0		80.7	50-150		
Chloroform	46		5	ug/kg	50.0		91.8	70-130		
Chloromethane	46		5	ug/kg	50.0		92.7	50-150		
4-Chlorotoluene	46		5	ug/kg	50.0		92.3	70-130		
2-Chlorotoluene	44		5	ug/kg	50.0		88.1	70-130		
1,2-Dibromo-3-chloropropane (DBCP)	43		5	ug/kg	50.0		85.8	70-130		
Dibromochloromethane	45		5	ug/kg	50.0		89.2	70-130		
1,2-Dibromoethane (EDB)	49		5	ug/kg	50.0		97.3	70-130		
Dibromomethane	49		5	ug/kg	50.0		98.5	60-140		
1,2-Dichlorobenzene	45		5	ug/kg	50.0		90.2	70-130		
1,3-Dichlorobenzene	45		5	ug/kg	50.0		89.9	70-130		
1,4-Dichlorobenzene	44		5	ug/kg	50.0		88.2	70-130		
1,1-Dichloroethane	44		5	ug/kg	50.0		88.5	70-130		
1,2-Dichloroethane	43		5	ug/kg	50.0		86.4	70-130		
trans-1,2-Dichloroethene	45		5	ug/kg	50.0		90.7	70-130		
cis-1,2-Dichloroethene	46		5	ug/kg	50.0		91.2	70-130		
1,1-Dichloroethene	44		5	ug/kg	50.0		88.7	70-130		
1,2-Dichloropropane	50		5	ug/kg	50.0		99.7	70-130		

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1246 - EPA 5035 (Continued)										
LCS (B4H1246-BS1)					Prepared & Analyzed: 08/30/24					
2,2-Dichloropropane	47		5	ug/kg	50.0		94.6	70-130		
cis-1,3-Dichloropropene	48		5	ug/kg	50.0		95.5	70-130		
trans-1,3-Dichloropropene	43		5	ug/kg	50.0		86.4	70-130		
1,1-Dichloropropene	49		5	ug/kg	50.0		97.9	70-130		
Diethyl ether	48		5	ug/kg	50.0		96.1	60-140		
1,4-Dioxane	264		100	ug/kg	250		106	0-200		
Ethylbenzene	45		5	ug/kg	50.0		89.2	70-130		
Hexachlorobutadiene	42		5	ug/kg	50.0		84.0	70-130		
2-Hexanone	45		5	ug/kg	50.0		89.3	50-150		
Isopropylbenzene	46		5	ug/kg	50.0		92.3	70-130		
p-Isopropyltoluene	47		5	ug/kg	50.0		94.2	70-130		
Methylene Chloride	56		5	ug/kg	50.0		111	60-140		
4-Methyl-2-pentanone	44		5	ug/kg	50.0		87.0	50-150		
Naphthalene	46		5	ug/kg	50.0		92.7	70-130		
n-Propylbenzene	46		5	ug/kg	50.0		91.6	70-130		
Styrene	46		5	ug/kg	50.0		91.9	70-130		
1,1,1,2-Tetrachloroethane	46		5	ug/kg	50.0		91.8	70-130		
Tetrachloroethene	46		5	ug/kg	50.0		92.2	70-130		
Tetrahydrofuran	47		5	ug/kg	50.0		94.8	50-150		
Toluene	46		5	ug/kg	50.0		91.3	70-130		
1,2,4-Trichlorobenzene	43		5	ug/kg	50.0		86.3	70-130		
1,2,3-Trichlorobenzene	44		5	ug/kg	50.0		88.0	70-130		
1,1,2-Trichloroethane	45		5	ug/kg	50.0		89.2	70-130		
1,1,1-Trichloroethane	48		5	ug/kg	50.0		96.2	70-130		
Trichloroethene	44		5	ug/kg	50.0		88.8	70-130		
1,2,3-Trichloropropane	41		5	ug/kg	50.0		83.0	70-130		
1,3,5-Trimethylbenzene	47		5	ug/kg	50.0		93.4	70-130		
1,2,4-Trimethylbenzene	45		5	ug/kg	50.0		91.0	70-130		
Vinyl Chloride	41		5	ug/kg	50.0		82.8	50-150		
o-Xylene	45		5	ug/kg	50.0		89.8	70-130		
m&p-Xylene	89		10	ug/kg	100		88.6	70-130		
1,1,2,2-Tetrachloroethane	43		5	ug/kg	50.0		86.0	70-130		
tert-Amyl methyl ether	48		5	ug/kg	50.0		96.6	70-130		
1,3-Dichloropropane	47		5	ug/kg	50.0		93.7	70-130		
Ethyl tert-butyl ether	47		5	ug/kg	50.0		94.1	70-130		
Trichlorofluoromethane	43		5	ug/kg	50.0		86.3	50-150		
Dichlorodifluoromethane	46		5	ug/kg	50.0		92.4	50-150		
Surrogate: 4-Bromofluorobenzene			*50.0*	ug/kg	*50.0*		*100*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*49.3*	ug/kg	*50.0*		*98.6*	*70-130*		
Surrogate: Toluene-d8			*50.1*	ug/kg	*50.0*		*100*	*70-130*		

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1246 - EPA 5035 (Continued)										
LCS Dup (B4H1246-BSD1)					Prepared & Analyzed: 08/30/24					
Acetone	38		5	ug/kg	50.0		75.8	50-150	8.20	30
Benzene	41		5	ug/kg	50.0		81.0	70-130	11.8	20
Bromobenzene	41		5	ug/kg	50.0		81.1	70-130	10.4	20
Bromochloromethane	44		5	ug/kg	50.0		87.3	70-130	8.17	20
Bromodichloromethane	43		5	ug/kg	50.0		86.5	70-130	11.5	20
Bromoform	38		5	ug/kg	50.0		75.1	70-130	10.9	20
Bromomethane	41		5	ug/kg	50.0		81.1	50-150	2.94	30
2-Butanone	40		5	ug/kg	50.0		79.9	50-150	0.971	30
tert-Butyl alcohol	37		5	ug/kg	50.0		74.6	70-130	0.349	20
sec-Butylbenzene	42		5	ug/kg	50.0		84.9	70-130	9.62	20
n-Butylbenzene	41		5	ug/kg	50.0		81.4	70-130	9.79	20
tert-Butylbenzene	42		5	ug/kg	50.0		83.2	70-130	9.50	20
Methyl t-butyl ether (MTBE)	42		5	ug/kg	50.0		83.7	70-130	10.5	20
Carbon Disulfide	45		5	ug/kg	50.0		90.6	50-150	13.5	40
Carbon Tetrachloride	41		5	ug/kg	50.0		81.6	70-130	7.02	20
Chlorobenzene	40		5	ug/kg	50.0		79.0	70-130	12.3	20
Chloroethane	34		5	ug/kg	50.0		67.7	50-150	17.4	30
Chloroform	41		5	ug/kg	50.0		83.0	70-130	10.1	20
Chloromethane	41		5	ug/kg	50.0		81.0	50-150	13.4	30
4-Chlorotoluene	41		5	ug/kg	50.0		81.6	70-130	12.3	20
2-Chlorotoluene	40		5	ug/kg	50.0		80.2	70-130	9.34	20
1,2-Dibromo-3-chloropropane (DBCP)	41		5	ug/kg	50.0		81.0	70-130	5.78	20
Dibromochloromethane	40		5	ug/kg	50.0		79.7	70-130	11.3	20
1,2-Dibromoethane (EDB)	44		5	ug/kg	50.0		88.4	70-130	9.59	20
Dibromomethane	43		5	ug/kg	50.0		86.2	60-140	13.3	30
1,2-Dichlorobenzene	41		5	ug/kg	50.0		82.9	70-130	8.50	20
1,3-Dichlorobenzene	41		5	ug/kg	50.0		81.1	70-130	10.3	20
1,4-Dichlorobenzene	40		5	ug/kg	50.0		80.2	70-130	9.55	20
1,1-Dichloroethane	41		5	ug/kg	50.0		81.7	70-130	8.06	20
1,2-Dichloroethane	41		5	ug/kg	50.0		82.0	70-130	5.20	20
trans-1,2-Dichloroethene	40		5	ug/kg	50.0		79.3	70-130	13.4	20
cis-1,2-Dichloroethene	40		5	ug/kg	50.0		80.7	70-130	12.2	20
1,1-Dichloroethene	39		5	ug/kg	50.0		77.5	70-130	13.5	20
1,2-Dichloropropane	44		5	ug/kg	50.0		88.1	70-130	12.3	20
2,2-Dichloropropane	41		5	ug/kg	50.0		81.7	70-130	14.6	20
cis-1,3-Dichloropropene	43		5	ug/kg	50.0		85.1	70-130	11.4	20
trans-1,3-Dichloropropene	38		5	ug/kg	50.0		76.9	70-130	11.6	20
1,1-Dichloropropene	42		5	ug/kg	50.0		85.0	70-130	14.2	20
Diethyl ether	42		5	ug/kg	50.0		83.3	60-140	14.3	30
1,4-Dioxane	265		100	ug/kg	250		106	0-200	0.272	50
Ethylbenzene	40		5	ug/kg	50.0		79.3	70-130	11.7	20
Hexachlorobutadiene	37		5	ug/kg	50.0		74.3	70-130	12.3	20
2-Hexanone	40		5	ug/kg	50.0		80.9	50-150	9.78	20
Isopropylbenzene	41		5	ug/kg	50.0		82.0	70-130	11.8	20
p-Isopropyltoluene	41		5	ug/kg	50.0		82.7	70-130	13.0	20
Methylene Chloride	47		5	ug/kg	50.0		94.8	60-140	16.2	30
4-Methyl-2-pentanone	41		5	ug/kg	50.0		82.3	50-150	5.60	20
Naphthalene	44		5	ug/kg	50.0		87.7	70-130	5.54	20
n-Propylbenzene	41		5	ug/kg	50.0		82.6	70-130	10.3	20
Styrene	40		5	ug/kg	50.0		80.7	70-130	13.0	20
1,1,1,2-Tetrachloroethane	40		5	ug/kg	50.0		80.8	70-130	12.7	20
Tetrachloroethene	42		5	ug/kg	50.0		83.8	70-130	9.57	20
Tetrahydrofuran	46		5	ug/kg	50.0		91.5	50-150	3.52	40
Toluene	40		5	ug/kg	50.0		80.7	70-130	12.4	20
1,2,4-Trichlorobenzene	39		5	ug/kg	50.0		77.5	70-130	10.7	20
1,2,3-Trichlorobenzene	41		5	ug/kg	50.0		82.1	70-130	6.91	20
1,1,2-Trichloroethane	41		5	ug/kg	50.0		81.5	70-130	9.13	30

Quality Control
(Continued)

Volatile Organic Compounds 8260C (5035-LL) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1246 - EPA 5035 (Continued)										
LCS Dup (B4H1246-BSD1)					Prepared & Analyzed: 08/30/24					
1,1,1-Trichloroethane	42		5	ug/kg	50.0		84.8	70-130	12.6	20
Trichloroethene	41		5	ug/kg	50.0		81.1	70-130	9.13	20
1,2,3-Trichloropropane	39		5	ug/kg	50.0		77.6	70-130	6.73	20
1,3,5-Trimethylbenzene	42		5	ug/kg	50.0		83.1	70-130	11.7	20
1,2,4-Trimethylbenzene	41		5	ug/kg	50.0		82.1	70-130	10.2	20
Vinyl Chloride	36		5	ug/kg	50.0		72.6	50-150	13.1	30
o-Xylene	40		5	ug/kg	50.0		80.5	70-130	10.9	20
m&p-Xylene	79		10	ug/kg	100		79.5	70-130	10.8	20
1,1,2,2-Tetrachloroethane	39		5	ug/kg	50.0		78.7	70-130	8.91	20
tert-Amyl methyl ether	42		5	ug/kg	50.0		84.6	70-130	13.2	20
1,3-Dichloropropane	43		5	ug/kg	50.0		85.7	70-130	8.96	20
Ethyl tert-butyl ether	43		5	ug/kg	50.0		85.3	70-130	9.77	20
Trichlorofluoromethane	38		5	ug/kg	50.0		76.1	50-150	12.6	20
Dichlorodifluoromethane	33		5	ug/kg	50.0		65.9	50-150	33.6	30
Surrogate: 4-Bromofluorobenzene			*49.3*	ug/kg	*50.0*		*98.6*	*70-130*		
Surrogate: 1,2-Dichloroethane-d4			*50.0*	ug/kg	*50.0*		*100*	*70-130*		
Surrogate: Toluene-d8			*51.2*	ug/kg	*50.0*		*102*	*70-130*		

Quality Control
(Continued)

Volatile Petroleum Hydrocarbons (MADEP-VPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4I0097 - MADEP VPH										
Blank (B4I0097-BLK1)					Prepared & Analyzed: 09/03/24					
Unadjusted C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
Unadjusted C9-C12 Aliphatic Hydrocarbons	ND		12.5	mg/kg						
C5-C8 Aliphatic Hydrocarbons	ND		10.0	mg/kg						
C9-C12 Aliphatic Hydrocarbons	ND		12.5	mg/kg						
C9-C10 Aromatic Hydrocarbons	ND		12.5	mg/kg						
Surrogate: 2,5- Dibromotoluene-PID			*49.3*	ug/l	*50.0*		*98.5*	*70-130*		
Surrogate: 2,5- Dibromotoluene-FID			*47.6*	ug/l	*50.0*		*95.2*	*70-130*		
LCS (B4I0097-BS1)					Prepared & Analyzed: 09/03/24					
VPH_LCS_Aliphatic_C5-C8	8.0		0.5	mg/kg	7.50		107	70-130		
VPH_LCS_Aliphatic_C9-C12	5.0		0.5	mg/kg	5.00		99.9	70-130		
VPH_LCS_Aromatic_C9-C10	2.7		0.5	mg/kg	2.50		109	70-130		
2,2,4-Trimethylpentane	2.7		0.2	mg/kg	2.50		108	70-130		
Surrogate: 2,5- Dibromotoluene-PID			*51.3*	ug/l	*50.0*		*103*	*70-130*		
Surrogate: 2,5- Dibromotoluene-FID			*50.0*	ug/l	*50.0*		*99.9*	*70-130*		
LCS Dup (B4I0097-BSD1)					Prepared & Analyzed: 09/03/24					
VPH_LCS_Aliphatic_C5-C8	7.9		0.5	mg/kg	7.50		106	70-130	0.735	25
VPH_LCS_Aliphatic_C9-C12	5.0		0.5	mg/kg	5.00		99.6	70-130	0.381	25
VPH_LCS_Aromatic_C9-C10	2.8		0.5	mg/kg	2.50		111	70-130	2.29	25
2,2,4-Trimethylpentane	2.7		0.2	mg/kg	2.50		107	70-130	1.69	25
Surrogate: 2,5- Dibromotoluene-PID			*50.3*	ug/l	*50.0*		*101*	*70-130*		
Surrogate: 2,5- Dibromotoluene-FID			*50.4*	ug/l	*50.0*		*101*	*70-130*		

Semivolatile organic compounds

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1263 - 1_Semivolatiles Extractions										
Blank (B4H1263-BLK1)					Prepared: 08/30/24 Analyzed: 09/03/24					
1,2,4-Trichlorobenzene	ND		129	ug/kg						
1,2-Dichlorobenzene	ND		129	ug/kg						
1,3-Dichlorobenzene	ND		129	ug/kg						
1,4-Dichlorobenzene	ND		129	ug/kg						
Phenol	ND		129	ug/kg						
2,4,5-Trichlorophenol	ND		129	ug/kg						
2,4,6-Trichlorophenol	ND		129	ug/kg						
2,4-Dichlorophenol	ND		129	ug/kg						
2,4-Dimethylphenol	ND		328	ug/kg						
2,4-Dinitrophenol	ND		328	ug/kg						
2,4-Dinitrotoluene	ND		129	ug/kg						
2,6-Dinitrotoluene	ND		129	ug/kg						
2-Chloronaphthalene	ND		129	ug/kg						
2-Chlorophenol	ND		129	ug/kg						
2-Methylnaphthalene	ND		129	ug/kg						
Nitrobenzene	ND		129	ug/kg						
2-Methylphenol	ND		129	ug/kg						
2-Nitroaniline	ND		129	ug/kg						
2-Nitrophenol	ND		328	ug/kg						
3,3'-Dichlorobenzidine	ND		328	ug/kg						
3-Nitroaniline	ND		129	ug/kg						
4,6-Dinitro-2-methylphenol	ND		328	ug/kg						
4-Bromophenyl phenyl ether	ND		129	ug/kg						
4-Chloro-3-methylphenol	ND		129	ug/kg						
4-Chloroaniline	ND		129	ug/kg						
4-Chlorophenyl phenyl ether	ND		129	ug/kg						
4-Nitroaniline	ND		129	ug/kg						
4-Nitrophenol	ND		328	ug/kg						
Acenaphthene	ND		129	ug/kg						
Acenaphthylene	ND		129	ug/kg						
Aniline	ND		129	ug/kg						
Anthracene	ND		129	ug/kg						
Benzo(a)anthracene	ND		129	ug/kg						
Benzo(a)pyrene	ND		129	ug/kg						
Benzo(b)fluoranthene	ND		129	ug/kg						
Benzo(g,h,i)perylene	ND		129	ug/kg						
Benzo(k)fluoranthene	ND		129	ug/kg						
Benzoic acid	ND		993	ug/kg						
Biphenyl	ND		20	ug/kg						
Bis(2-chloroethoxy)methane	ND		129	ug/kg						
Bis(2-chloroethyl)ether	ND		129	ug/kg						
Bis(2-chloroisopropyl)ether	ND		129	ug/kg						
Bis(2-ethylhexyl)phthalate	ND		397	ug/kg						
Butyl benzyl phthalate	ND		129	ug/kg						
Chrysene	ND		129	ug/kg						
Di-n-octyl phthalate	ND		199	ug/kg						
Dibenz(a,h)anthracene	ND		129	ug/kg						
Dibenzofuran	ND		129	ug/kg						
Diethyl phthalate	ND		129	ug/kg						
Dimethyl phthalate	ND		328	ug/kg						
Di-n-butyl phthalate	ND		199	ug/kg						
Fluoranthene	ND		129	ug/kg						
Fluorene	ND		129	ug/kg						
Hexachlorobenzene	ND		129	ug/kg						
Hexachlorobutadiene	ND		129	ug/kg						
Hexachlorocyclopentadiene	ND		328	ug/kg						
Hexachloroethane	ND		129	ug/kg						

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1263 - 1_Semivolatiles Extractions (Continued)										
Blank (B4H1263-BLK1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Indeno(1,2,3-cd)pyrene	ND		129	ug/kg						
Isophorone	ND		129	ug/kg						
Naphthalene	ND		129	ug/kg						
N-Nitrosodimethylamine	ND		129	ug/kg						
N-Nitrosodi-n-propylamine	ND		129	ug/kg						
N-Nitrosodiphenylamine	ND		129	ug/kg						
Pentachlorophenol	ND		328	ug/kg						
Phenanthrene	ND		129	ug/kg						
Pyrene	ND		129	ug/kg						
m&p-Cresol	ND		258	ug/kg						
Pyridine	ND		129	ug/kg						
Azobenzene	ND		129	ug/kg						
Total Dichlorobenzene	ND		129	ug/kg						
Surrogate: Nitrobenzene-d5			*2070*	ug/kg	*3310*		*62.4*	*30-126*		
Surrogate: p-Terphenyl-d14			*1960*	ug/kg	*3310*		*59.1*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*1860*	ug/kg	*3310*		*56.2*	*34-130*		
Surrogate: Phenol-d6			*1720*	ug/kg	*3310*		*51.8*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*1840*	ug/kg	*3310*		*55.7*	*30-130*		
Surrogate: 2-Fluorophenol			*1570*	ug/kg	*3310*		*47.4*	*30-130*		
LCS (B4H1263-BS1)					Prepared: 08/30/24 Analyzed: 09/03/24					
1,2,4-Trichlorobenzene	1750		129	ug/kg	3310		53.0	40-130		
1,2-Dichlorobenzene	1770		129	ug/kg	3310		53.4	40-130		
1,3-Dichlorobenzene	1670		129	ug/kg	3310		50.4	40-130		
1,4-Dichlorobenzene	1750		129	ug/kg	3310		53.0	40-130		
Phenol	1680		129	ug/kg	3310		50.7	40-130		
2,4,5-Trichlorophenol	1790		129	ug/kg	3310		54.0	40-130		
2,4,6-Trichlorophenol	1590		129	ug/kg	3310		48.1	40-130		
2,4-Dichlorophenol	1790		129	ug/kg	3310		54.1	40-130		
2,4-Dimethylphenol	1780		328	ug/kg	3310		53.7	40-130		
2,4-Dinitrophenol	942		328	ug/kg	3310		28.4	15-140		
2,4-Dinitrotoluene	2110		129	ug/kg	3310		63.8	40-130		
2,6-Dinitrotoluene	2080		129	ug/kg	3310		62.9	40-130		
2-Chloronaphthalene	1740		129	ug/kg	3310		52.5	40-130		
2-Chlorophenol	1780		129	ug/kg	3310		53.7	40-130		
2-Methylnaphthalene	1630		129	ug/kg	3310		49.3	40-130		
Nitrobenzene	2000		129	ug/kg	3310		60.3	40-130		
2-Methylphenol	1980		129	ug/kg	3310		59.7	40-130		
2-Nitroaniline	2310		129	ug/kg	3310		69.6	40-130		
2-Nitrophenol	1840		328	ug/kg	3310		55.6	40-130		
3-Nitroaniline	1860		129	ug/kg	3310		56.2	40-130		
4,6-Dinitro-2-methylphenol	1560		328	ug/kg	3310		47.2	30-130		
4-Bromophenyl phenyl ether	1760		129	ug/kg	3310		53.2	40-130		
4-Chloro-3-methylphenol	1700		129	ug/kg	3310		51.4	40-130		
4-Chlorophenyl phenyl ether	1880		129	ug/kg	3310		56.7	40-130		
4-Nitroaniline	1890		129	ug/kg	3310		57.1	40-130		
4-Nitrophenol	2330		328	ug/kg	3310		70.2	40-130		
Acenaphthene	1670		129	ug/kg	3310		50.6	40-130		
Acenaphthylene	1540		129	ug/kg	3310		46.6	40-130		
Anthracene	1890		129	ug/kg	3310		57.0	40-130		
Benzo(a)anthracene	1830		129	ug/kg	3310		55.4	40-130		
Benzo(a)pyrene	1910		129	ug/kg	3310		57.8	40-130		
Benzo(b)fluoranthene	1970		129	ug/kg	3310		59.5	40-130		
Benzo(g,h,i)perylene	1790		129	ug/kg	3310		54.0	40-130		
Benzo(k)fluoranthene	2010		129	ug/kg	3310		60.7	40-130		
Biphenyl	417		20	ug/kg	828		50.4	40-130		
Bis(2-chloroethoxy)methane	1720		129	ug/kg	3310		52.0	40-130		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1263 - 1_Semivolatiles Extractions (Continued)										
LCS (B4H1263-BS1)					Prepared: 08/30/24 Analyzed: 09/03/24					
Bis(2-chloroethyl)ether	1670		129	ug/kg	3310		50.4	40-130		
Bis(2-chloroisopropyl)ether	1640		129	ug/kg	3310		49.6	40-130		
Bis(2-ethylhexyl)phthalate	2190		397	ug/kg	3310		66.0	40-130		
Butyl benzyl phthalate	2130		129	ug/kg	3310		64.3	40-130		
Chrysene	1780		129	ug/kg	3310		53.8	40-130		
Di-n-octyl phthalate	2610		199	ug/kg	3310		78.9	40-130		
Dibenz(a,h)anthracene	1800		129	ug/kg	3310		54.3	40-130		
Dibenzofuran	1760		129	ug/kg	3310		53.2	40-130		
Diethyl phthalate	1840		129	ug/kg	3310		55.7	40-130		
Dimethyl phthalate	1720		328	ug/kg	3310		52.0	40-130		
Di-n-butyl phthalate	1870		199	ug/kg	3310		56.6	40-130		
Fluoranthene	1820		129	ug/kg	3310		55.1	40-130		
Fluorene	1880		129	ug/kg	3310		56.9	40-130		
Hexachlorobenzene	1890		129	ug/kg	3310		56.9	40-130		
Hexachlorobutadiene	2040		129	ug/kg	3310		61.6	40-130		
Hexachlorocyclopentadiene	1410		328	ug/kg	3310		42.5	40-130		
Hexachloroethane	1770		129	ug/kg	3310		53.3	40-130		
Indeno(1,2,3-cd)pyrene	1790		129	ug/kg	3310		54.2	40-130		
Isophorone	1930		129	ug/kg	3310		58.2	40-130		
Naphthalene	1800		129	ug/kg	3310		54.3	40-130		
N-Nitrosodimethylamine	1910		129	ug/kg	3310		57.8	40-130		
N-Nitrosodi-n-propylamine	1950		129	ug/kg	3310		58.8	40-130		
N-Nitrosodiphenylamine	2060		129	ug/kg	3310		62.3	40-130		
Pentachlorophenol	1370		328	ug/kg	3310		41.3	15-140		
Phenanthrene	1870		129	ug/kg	3310		56.4	40-130		
Pyrene	1750		129	ug/kg	3310		52.9	40-130		
m&p-Cresol	1940		258	ug/kg	3310		58.5	40-130		
Surrogate: Nitrobenzene-d5			*2900*	ug/kg	*3310*		*87.7*	*30-126*		
Surrogate: p-Terphenyl-d14			*2740*	ug/kg	*3310*		*82.7*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2640*	ug/kg	*3310*		*79.8*	*34-130*		
Surrogate: Phenol-d6			*2430*	ug/kg	*3310*		*73.5*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2840*	ug/kg	*3310*		*85.6*	*30-130*		
Surrogate: 2-Fluorophenol			*2250*	ug/kg	*3310*		*67.9*	*30-130*		

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1263 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B4H1263-BSD1)					Prepared: 08/30/24 Analyzed: 09/03/24					
1,2,4-Trichlorobenzene	1700		129	ug/kg	3310		51.5	40-130	2.91	30
1,2-Dichlorobenzene	1730		129	ug/kg	3310		52.3	40-130	2.19	30
1,3-Dichlorobenzene	1650		129	ug/kg	3310		50.0	40-130	0.837	30
1,4-Dichlorobenzene	1710		129	ug/kg	3310		51.5	40-130	2.80	30
Phenol	1610		129	ug/kg	3310		48.7	40-130	4.19	30
2,4,5-Trichlorophenol	1820		129	ug/kg	3310		55.0	40-130	1.91	30
2,4,6-Trichlorophenol	1580		129	ug/kg	3310		47.7	40-130	0.793	30
2,4-Dichlorophenol	1700		129	ug/kg	3310		51.5	40-130	5.04	30
2,4-Dimethylphenol	1700		328	ug/kg	3310		51.3	40-130	4.53	30
2,4-Dinitrophenol	883		328	ug/kg	3310		26.7	15-140	6.46	30
2,4-Dinitrotoluene	2100		129	ug/kg	3310		63.3	40-130	0.787	30
2,6-Dinitrotoluene	2010		129	ug/kg	3310		60.7	40-130	3.43	30
2-Chloronaphthalene	1720		129	ug/kg	3310		51.9	40-130	1.03	30
2-Chlorophenol	1720		129	ug/kg	3310		52.0	40-130	3.25	30
2-Methylnaphthalene	1620		129	ug/kg	3310		49.0	40-130	0.569	30
Nitrobenzene	1900		129	ug/kg	3310		57.4	40-130	4.86	30
2-Methylphenol	1880		129	ug/kg	3310		56.7	40-130	5.02	30
2-Nitroaniline	2250		129	ug/kg	3310		68.1	40-130	2.21	30
2-Nitrophenol	1790		328	ug/kg	3310		54.0	40-130	3.03	30
3-Nitroaniline	1860		129	ug/kg	3310		56.3	40-130	0.178	30
4,6-Dinitro-2-methylphenol	1440		328	ug/kg	3310		43.4	30-130	8.43	30
4-Bromophenyl phenyl ether	1700		129	ug/kg	3310		51.2	40-130	3.79	30
4-Chloro-3-methylphenol	1640		129	ug/kg	3310		49.5	40-130	3.81	30
4-Chlorophenyl phenyl ether	1860		129	ug/kg	3310		56.2	40-130	0.992	30
4-Nitroaniline	1870		129	ug/kg	3310		56.5	40-130	1.09	30
4-Nitrophenol	2280		328	ug/kg	3310		69.0	40-130	1.78	30
Acenaphthene	1630		129	ug/kg	3310		49.1	40-130	2.97	30
Acenaphthylene	1530		129	ug/kg	3310		46.1	40-130	1.12	30
Anthracene	1830		129	ug/kg	3310		55.3	40-130	2.99	30
Benzo(a)anthracene	1790		129	ug/kg	3310		54.1	40-130	2.30	30
Benzo(a)pyrene	1880		129	ug/kg	3310		56.8	40-130	1.85	30
Benzo(b)fluoranthene	1920		129	ug/kg	3310		57.9	40-130	2.73	30
Benzo(g,h,i)perylene	1760		129	ug/kg	3310		53.0	40-130	1.83	30
Benzo(k)fluoranthene	1930		129	ug/kg	3310		58.3	40-130	4.00	30
Biphenyl	413		20	ug/kg	828		49.8	40-130	1.12	30
Bis(2-chloroethoxy)methane	1690		129	ug/kg	3310		51.0	40-130	1.98	30
Bis(2-chloroethyl)ether	1630		129	ug/kg	3310		49.2	40-130	2.41	30
Bis(2-chloroisopropyl)ether	1600		129	ug/kg	3310		48.2	40-130	2.90	30
Bis(2-ethylhexyl)phthalate	2130		397	ug/kg	3310		64.3	40-130	2.73	30
Butyl benzyl phthalate	2060		129	ug/kg	3310		62.1	40-130	3.42	30
Chrysene	1750		129	ug/kg	3310		52.9	40-130	1.76	30
Di-n-octyl phthalate	2550		199	ug/kg	3310		77.1	40-130	2.26	30
Dibenz(a,h)anthracene	1760		129	ug/kg	3310		53.1	40-130	2.20	30
Dibenzofuran	1740		129	ug/kg	3310		52.6	40-130	1.17	30
Diethyl phthalate	1830		129	ug/kg	3310		55.2	40-130	0.865	30
Dimethyl phthalate	1710		328	ug/kg	3310		51.6	40-130	0.849	30
Di-n-butyl phthalate	1840		199	ug/kg	3310		55.4	40-130	2.14	30
Fluoranthene	1760		129	ug/kg	3310		53.2	40-130	3.51	30
Fluorene	1850		129	ug/kg	3310		55.9	40-130	1.67	30
Hexachlorobenzene	1840		129	ug/kg	3310		55.5	40-130	2.53	30
Hexachlorobutadiene	2010		129	ug/kg	3310		60.8	40-130	1.24	30
Hexachlorocyclopentadiene	1380		328	ug/kg	3310		41.7	40-130	1.76	30
Hexachloroethane	1700		129	ug/kg	3310		51.3	40-130	3.94	30
Indeno(1,2,3-cd)pyrene	1770		129	ug/kg	3310		53.3	40-130	1.60	30
Isophorone	1880		129	ug/kg	3310		56.7	40-130	2.47	30
Naphthalene	1730		129	ug/kg	3310		52.3	40-130	3.83	30
N-Nitrosodimethylamine	2570		129	ug/kg	3310		77.7	40-130	[illegible]	[illegible]

Semivolatile organic compounds (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4H1263 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B4H1263-BSD1)					Prepared: 08/30/24 Analyzed: 09/03/24					
N-Nitrosodi-n-propylamine	1900		129	ug/kg	3310		57.3	40-130	2.59	30
N-Nitrosodiphenylamine	1990		129	ug/kg	3310		60.0	40-130	3.63	30
Pentachlorophenol	1300		328	ug/kg	3310		39.2	15-140	5.12	30
Phenanthrene	1820		129	ug/kg	3310		55.0	40-130	2.62	30
Pyrene	1700		129	ug/kg	3310		51.4	40-130	2.84	30
m&p-Cresol	1870		258	ug/kg	3310		56.5	40-130	3.41	30
Surrogate: Nitrobenzene-d5			*2830*	ug/kg	*3310*		*85.5*	*30-126*		
Surrogate: p-Terphenyl-d14			*2700*	ug/kg	*3310*		*81.6*	*47-130*		
Surrogate: 2-Fluorobiphenyl			*2650*	ug/kg	*3310*		*80.1*	*34-130*		
Surrogate: Phenol-d6			*2390*	ug/kg	*3310*		*72.1*	*30-130*		
Surrogate: 2,4,6-Tribromophenol			*2810*	ug/kg	*3310*		*84.7*	*30-130*		
Surrogate: 2-Fluorophenol			*2180*	ug/kg	*3310*		*65.7*	*30-130*		

Quality Control
(Continued)

Extractable Petroleum Hydrocarbons (MADEP-EPH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4I0046 - 1_Semivolatiles Extractions										
Blank (B4I0046-BLK1)					Prepared: 09/03/24 Analyzed: 09/04/24					
Unadjusted C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
C9-C18 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C19-C36 Aliphatic Hydrocarbons	ND		13.2	mg/kg						
C11-C22 Aromatic Hydrocarbons	ND		6.63	mg/kg						
Surrogate: Chlorooctadecane			*4.60*	mg/kg	*8.28*		*55.6*	*40-140*		
Surrogate: o-Terphenyl			*3.54*	mg/kg	*8.28*		*42.8*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*1.85*	mg/kg	*3.31*		*55.8*	*40-140*		
Surrogate: 2-Bromonaphthalene			*1.80*	mg/kg	*3.31*		*54.3*	*40-140*		
LCS (B4I0046-BS1)					Prepared: 09/03/24 Analyzed: 09/04/24					
EPH_LCS_Aliphatic_C19-C36	11.2		0.00	mg/kg	21.2		52.9	40-140		
EPH_LCS_Aliphatic_C9-C18	6.78		0.00	mg/kg	15.9		42.7	40-140		
EPH_LCS_Aromatic_C11-C22	21.6		0.00	mg/kg	45.0		48.1	40-140		
Nonane	0.85		0.33	mg/kg	2.65		31.9	30-140		
Decane	1.07		0.33	mg/kg	2.65		40.6	40-140		
Dodecane	1.18		0.33	mg/kg	2.65		44.5	40-140		
Tetradecane	1.15		0.33	mg/kg	2.65		43.2	40-140		
Hexadecane	1.20		0.33	mg/kg	2.65		45.2	40-140		
Octadecane	1.34		0.33	mg/kg	2.65		50.5	40-140		
Nonadecane	1.37		0.33	mg/kg	2.65		51.8	40-140		
Eicosane	1.44		0.33	mg/kg	2.65		54.3	40-140		
Docosane	1.47		0.33	mg/kg	2.65		55.4	40-140		
Tetracosane	1.47		0.33	mg/kg	2.65		55.5	40-140		
Hexacosane	1.46		0.33	mg/kg	2.65		55.1	40-140		
Octacosane	1.45		0.33	mg/kg	2.65		54.8	40-140		
Triacontane	1.42		0.33	mg/kg	2.65		53.6	40-140		
Hexatriacontane	1.14		0.33	mg/kg	2.65		42.9	40-140		
Surrogate: Chlorooctadecane			*4.71*	mg/kg	*8.28*		*56.9*	*40-140*		
Surrogate: o-Terphenyl			*5.07*	mg/kg	*8.28*		*61.3*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*2.61*	mg/kg	*3.31*		*78.8*	*40-140*		
Surrogate: 2-Bromonaphthalene			*2.37*	mg/kg	*3.31*		*71.6*	*40-140*		

Extractable Petroleum Hydrocarbons (MADEP-EPH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B4I0046 - 1_Semivolatiles Extractions (Continued)										
LCS Dup (B4I0046-BSD1)					Prepared: 09/03/24 Analyzed: 09/04/24					
EPH_LCS_Aliphatic_C19-C36	12.1		0.00	mg/kg	21.2		57.1	40-140	7.65	25
EPH_LCS_Aliphatic_C9-C18	7.47		0.00	mg/kg	15.9		47.0	40-140	9.75	25
EPH_LCS_Aromatic_C11-C22	23.7		0.00	mg/kg	45.0		52.6	40-140	8.99	25
Nonane	0.85		0.33	mg/kg	2.65		32.2	30-140	1.09	25
Decane	1.12		0.33	mg/kg	2.65		42.2	40-140	3.99	25
Dodecane	1.37		0.33	mg/kg	2.65		51.6	40-140	14.7	25
Tetradecane	1.32		0.33	mg/kg	2.65		49.8	40-140	14.0	25
Hexadecane	1.35		0.33	mg/kg	2.65		51.0	40-140	12.2	25
Octadecane	1.47		0.33	mg/kg	2.65		55.3	40-140	9.02	25
Nonadecane	1.49		0.33	mg/kg	2.65		56.4	40-140	8.64	25
Eicosane	1.56		0.33	mg/kg	2.65		58.9	40-140	8.17	25
Docosane	1.59		0.33	mg/kg	2.65		60.1	40-140	8.18	25
Tetracosane	1.60		0.33	mg/kg	2.65		60.3	40-140	8.25	25
Hexacosane	1.59		0.33	mg/kg	2.65		60.1	40-140	8.67	25
Octacosane	1.57		0.33	mg/kg	2.65		59.4	40-140	8.10	25
Triacontane	1.53		0.33	mg/kg	2.65		57.6	40-140	7.20	25
Hexatriacontane	1.17		0.33	mg/kg	2.65		44.2	40-140	2.87	25
Surrogate: Chlorooctadecane			*4.79*	mg/kg	*8.28*		*57.9*	*40-140*		
Surrogate: o-Terphenyl			*5.54*	mg/kg	*8.28*		*66.9*	*40-140*		
Surrogate: 2-Fluorobiphenyl			*3.07*	mg/kg	*3.31*		*92.8*	*40-140*		
Surrogate: 2-Bromonaphthalene			*2.76*	mg/kg	*3.31*		*83.3*	*40-140*		

Notes and Definitions

Item	Definition
Wet	Sample results reported on a wet weight basis.
ND	Analyte NOT DETECTED at or above the reporting limit.

New England Testing Laboratory
59 Greenhill Street
West Warwick, RI 02893
1-888-863-8522

4 H 2 9030 P

Chain of Custody Record

Project No.	Project Name/Location: Oak Knoll Worcester				Matrix					Tests**									
Client: Parker Environmental Corp																			
Report To: sparker@parkerenv.com																			
Invoice To: Scott Parker																			
Date	Time	Comp	Grab	Sample I.D.	Aqueous	Soil	Other	No. of Containers	Preservative	Total Lead and Arsenic	Total RCRA 8 Metals	8270 - low level	8260 - low level	VPH Ranges only	EPH Ranges Only			TCLP if 20X	
08/28/24	09:30	X		Native		✓		2		X									
08/28/24	09:40	X		Fill-1		✓		2			X	X			X				
08/28/24	09:40		X	Fill-1 B		✓		3	MeOH/stirbar				X	X					
08/28/24	09:45	X		Fill-2		✓		2			X	X			X				
08/28/24	09:45		X	Fill-2 B		✓		3	MeOH/stirbar				X	X					
						✓													
						✓													
						✓													
						✓													
						✓													
						✓													
						✓													
						✓													
						✓													

Sampled By:	Date/Time	Received By:	Date/Time	Laboratory Remarks:	Special Instructions:
			8-29-24 1130		Run TCLP metals if exceeding 20X
Relinquished By:	Date/Time	Received By:	Date/Time		
	8-29-24 1510		8/29/24 1510	Temp. Received: 3	

**Netlab Subcontracts the following tests: Radiologicals, Radon, TOC, Asbestos, UCMRs, Perchlorate, Bromate, Bromide, Sieve, Salmonella, Carbamates

Turnaround Time [Business Days]: **5 Days**

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.	Project #:
Project Location: Worcester, MA	RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
4H29030

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A ☒	7470/7471 Hg CAM III B ☒	MassDEP VPH (GC/PID/FID) CAM IV A ☒	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☒	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) 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 Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☒ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☒ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☒ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☒ Yes ☐ No
E	VPH, EPH, APH, and TO-15 only 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). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☒ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☒ Yes ☐ No

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☒ Yes ☐ No[1]

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

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☒ Yes ☐ No[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 laboratory narrative.*

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

Signature: 

Position: Laboratory Director

Printed Name: Mike McCallum

Date: 9/6/2024