O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

J3771-01-01
December 6, 2024 (Revised July 25, 2025)

Town of Deerfield
Deerfield Senior Housing Ad Hoc Committee
8 Conway Street
South Deerfield, Massachusetts 01373
Attn: Lili Dwight, Chair
Delivered via e-mail: ldwight.SrHousing@deerfield.life

Re: Limited Subsurface Assessment (Revised)
85 North Main Street
Deerfield, Massachusetts

Dear Ms. Dwight:

O'Reilly, Talbot & Okun Associates, Inc. (OTO) is pleased to provide the results of our Limited Subsurface Assessment at the above-referenced subject property. A Site Locus is provided as Figure 1. This document was prepared for the Deerfield Senior Housing Ad Hoc Committee. The report is subject to the Limitations in Appendix A.

BACKGROUND & OBJECTIVE

A Phase I Environmental Site Assessment (ESA) report, dated July 9, 2024, was prepared by OTO on behalf of The Berkshire Design Group, Inc. The assessment identified the following conditions that warranted assessment:

- Records from the Fire Department indicated three 1,000-gallon underground storage tanks (USTs) were removed from the subject property in July of 2003. Records from the removal of one of the USTs located behind the rectory indicated that though no holes were observed, the UST was filled with water.
- There was no record of environmental testing of soil or groundwater following the removal of the three USTs. The absence of soil testing following the removal of an UST is a recognized environmental condition under the standard.
- Two aboveground storage oil tanks (ASTs) were observed in the basement of the church. The tanks are in the southwest corner of the basement.
- Two ASTs were observed in the basement of the rectory/residence. These tanks are in the boiler room on the north side of the basement.
- A floor drain with an unknown discharge location was observed in a garage on the western side of the subject property. Based upon the presence of used motor oil stored in the garage, it is likely that some personal vehicle maintenance was formerly performed in the garage. If this drain indeed discharges into the subsurface, there is a potential that oil or hazardous materials have been released to the environment.

To address these conditions, OTO recommended a limited subsurface assessment that included a soil and groundwater sampling program.

LIMITED SUBSURFACE ASSESSMENT

Drilling Program

On October 29, 2024, OTO personnel were onsite to observe subsurface explorations performed by Martin GeoEnvironmental, LLC of Belchertown, Massachusetts (Martin). A total of five soil borings were proposed for the investigations to evaluate soil in the suspected former locations of USTs (DSH-1 through DSH-4), the area around the garage floor drain (DSH-1, DSH-2, DSH-4), and the areas near the observed ASTs (DSH-2 and DSH-5). The locations of the borings are depicted on Figure 2.

The locations were cleared with an air knife to five feet below grade. At DSH-1 through DSH-5, borings were advanced using direct drive drilling techniques to a maximum of 17 feet below grade. Soil samples were collected by an OTO scientist who characterized, logged, and field screened the samples with a photoionization detector (PID). Total Organic Vapors (TOV) levels were below the instrument detection limit of 0.1 parts per million by volume (ppmV).

No odors or staining consistent with petroleum were observed in the soil samples. Soil observed at the boring locations was predominantly fine to medium sands with trace amounts of silt to the end of exploration at approximately 17 feet below grade.

Soil borings DSH-1, DSH-2, DSH-3, and DSH-5 were completed as 2-inch diameter groundwater monitoring wells, constructed of ten feet of slotted PVC screen and solid riser to grade. The annulus surrounding each well casing was backfilled with graded sand to two feet above the screened interval, followed by a one-foot hydrated bentonite seal, followed by native materials to grade. The wells were completed with a steel curb boxes cemented flush to grade. DSH-4 was backfilled with native material to grade and then patched with asphalt. Soil boring and monitoring well construction logs are provided as Appendix B. The groundwater monitoring wells were developed following installation to remove fine materials from the sandpack and increase the connectivity of the wells to the surrounding aquifer.

Following installation, the monitoring wells were surveyed for relative elevation so that an estimated groundwater flow direction could be calculated at the property from well gauging data.

Representative soil samples were collected at DSH-1 (10-13’), DSH-2 (11-15’), DSH-3 (8-10’), DSH-4 (8-10’), and DSH-5 (13-15’) and submitted to Phoenix Environmental Laboratories, Inc. of Manchester, Connecticut (Phoenix) for analysis of Extractable Petroleum Hydrocarbons (EPH) by the Massachusetts Department of Environmental Protection (MassDEP) method. This analysis is appropriate for the evaluation of potential releases of heavier petroleum (e.g., fuel oil or waste oil). Samples from other soil borings were not submitted for laboratory analysis based upon the absence of TOV greater than 0.1 ppmV or other indications of impact by oil or hazardous materials (e.g., staining or petroleum odor).

EPH fractions or target analytes were not detected in any samples above the laboratory’s Reportable Detection Limits (RDLs). These data are summarized on

Table 1. A copy of the laboratory report and chain of custody record is provided as Appendix C.

Groundwater Sampling

OTO personnel sampled monitoring wells DSH-1, DSH-2, DSH-3, and DSH-5 between November 6 and 7, 2024, via low-flow sampling techniques. Groundwater was gauged prior to sampling. Based upon the groundwater gauging data, the groundwater flow direction was estimated to be toward the northwest, in the direction of Bloody Brook. Groundwater elevation calculations are provided on Table 3.

Turbidity measurements greater than 5 Nephelometric Turbidity Units (NTU) were measured during purging of the wells for sampling. For this reason, samples were field filtered prior to preservation in laboratory-provided glassware. The samples were submitted to Phoenix for laboratory analysis of EPH. Copies of the groundwater sampling logs are provided as Appendix D.

EPH Fractions and target analytes were not detected in the groundwater samples collected at monitoring wells on the property at concentrations above laboratory RDLs. A copy of the laboratory report is provided as Appendix C.

Well Decommissioning

OTO personnel were onsite to observe Martin decommission the groundwater monitoring wells on November 27, 2024. The PVC well casings were filled with bentonite grout and the tops of the wells were capped with asphalt flush to grade.

CONCLUSIONS

A limited subsurface assessment was conducted in October and November 2024 to collect soil and groundwater data for the subject property to evaluate RECs that were identified in the Phase I ESA. Soil and groundwater samples did not contain EPH Fractions or target analytes at concentrations above MassDEP Reportable Conditions. Based upon these results, a Reportable Condition is not present for soil or groundwater at the Site.

The findings within the scope of our assessment indicate that the conditions identified in the Phase I ESA have been adequately assessed, and no further action is necessary with respect to the conditions. No assessment can wholly eliminate the possibility of a release of oil or hazardous materials. Our report does not present scientific certainties, but rather our professional opinions on the data obtained through our assessment. Given the limited nature of this assessment, and the inherent uncertainties in evaluating surface and subsurface conditions, we do not represent or warrant that the subject property contains no oil or hazardous materials, even if none were detected in our assessment.

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.

Lori A. McCarthy, LSP
Principal

Attachments

Tables:

Table 1	Soil Analytical Results
Table 2	Groundwater Analytical Results
Table 3	Monitoring Well Survey and Groundwater Elevation Data

Figures:

Figure 1	Site Locus
Figure 2	Site Plan

Appendices:

Appendix A	Limitations
Appendix B	Soil Boring Logs
Appendix C	Laboratory Reports
Appendix D	Groundwater Sampling Logs

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TABLES

TABLE 1
SOIL ANALYTICAL RESULTS
Extractable Petroleum Hydrocarbons (EPH)

Deerfield Senior Housing, 85 North Main Street, Deerfield, Massachusetts

Results and Standards reported in milligrams per kilogram (mg/Kg)

Sample No.:	Reportable Concentration (RCS-1)	Method 1 Standard S-1/GW-1	M3CL	DSH-1 S-3	DSH-2 S-5	DSH-3 S-3	DSH-4 S-4	DSH-5 S-4
Depth (feet):				10-13	11-15	8-10	8-10	13-15
Date Collected:				10/29/2024	10/29/2024	10/29/2024	10/29/2024	10/29/2024
TOV (ppmv):				ND	ND	ND	ND	ND
EPH Fractions								
C9-C18 Aliphatics	1,000	1,000	20,000	<84	<85	<74	<75	<84
C19-C36 Aliphatics	3,000	3,000	20,000	<84	<85	<74	<75	<84
C11-C22 Aromatics	1,000	1,000	10,000	<84	<85	<74	<75	<84
EPH Target Compounds								
Acenaphthene	4	4	10,000	<0.29	<0.30	<0.26	<0.26	<0.29
2-Methylnaphthalene	0.7	0.7	5,000	<0.29	<0.30	<0.26	<0.26	<0.29
Naphthalene	4	4	10,000	<0.29	<0.30	<0.26	<0.26	<0.29
Phenanthrene	10	10	10,000	<0.29	<0.30	<0.26	<0.26	<0.29

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. MCP Method 1 soil standards from 310 CMR 40.0975(6).
5. "M3CLs" =Method 3 Ceiling Limits, from 310 CMR 40.0996(7). "NS" indicates no standard.
6. "TOV"=Total Organic Vapor soil headspace measurement in parts per million by volume.
7. ND is "Not Detected"

Table 2
Soil Analytical Results
Extractable Petroleum Hydrocarbons (EPH)
Concentrations in mg/kg
Deerfield Senior Housing - 85 North Main St
Deerfield, Massachusetts

Sample No.:	DSH-1 S-3	DSH-2 S-5	DSH-3 S-3	DSH-4 S-4	DSH-5 S-4	Reportable Conc. RCS-1	MCP Method 1 Standard S-1 / GW-1	UCLs
Depth (feet):	10-13	11-15	8-10	8-10	13-15			
Date Collected:	10/29/24	10/29/2024	10/29/2024	10/29/2024	10/29/2024			
PID Reading (ppmv):	0.0	0.0	0.0	0.0	0.0	NA	NA	NA
EPH Fractions								
C9-C18 Aliphatics	< 84	< 85	< 74	< 75	< 84	1,000	1,000	20,000
C19-C36 Aliphatics	< 84	< 85	< 74	< 75	< 84	3,000	3,000	20,000
C11-C22 Aromatics	< 84	< 85	< 74	< 75	< 84	1,000	1,000	10,000
EPH Target Compounds								
Acenaphthene	< 0.29	< 0.3	< 0.26	< 0.26	< 0.29	4	4	10,000
2-Methylnaphthalene	< 0.29	< 0.3	< 0.26	< 0.26	< 0.29	0.7	0.7	5,000
Naphthalene	< 0.29	< 0.3	< 0.26	< 0.26	< 0.29	4	4	10,000
Phenanthrene	< 0.29	< 0.3	< 0.26	< 0.26	< 0.29	10	10	10,000

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. MCP Method 1 soil standards from 310 CMR 40.0975(6).
5. "UCLs" = Upper Concentration Limits, from 310 CMR 40.0996(7). "NS" indicates no standard.
6. "PID"=Photoionization detector soil headspace measurement in parts per million by volume
7. Values shown in **bold** exceed Reportable Concentrations.

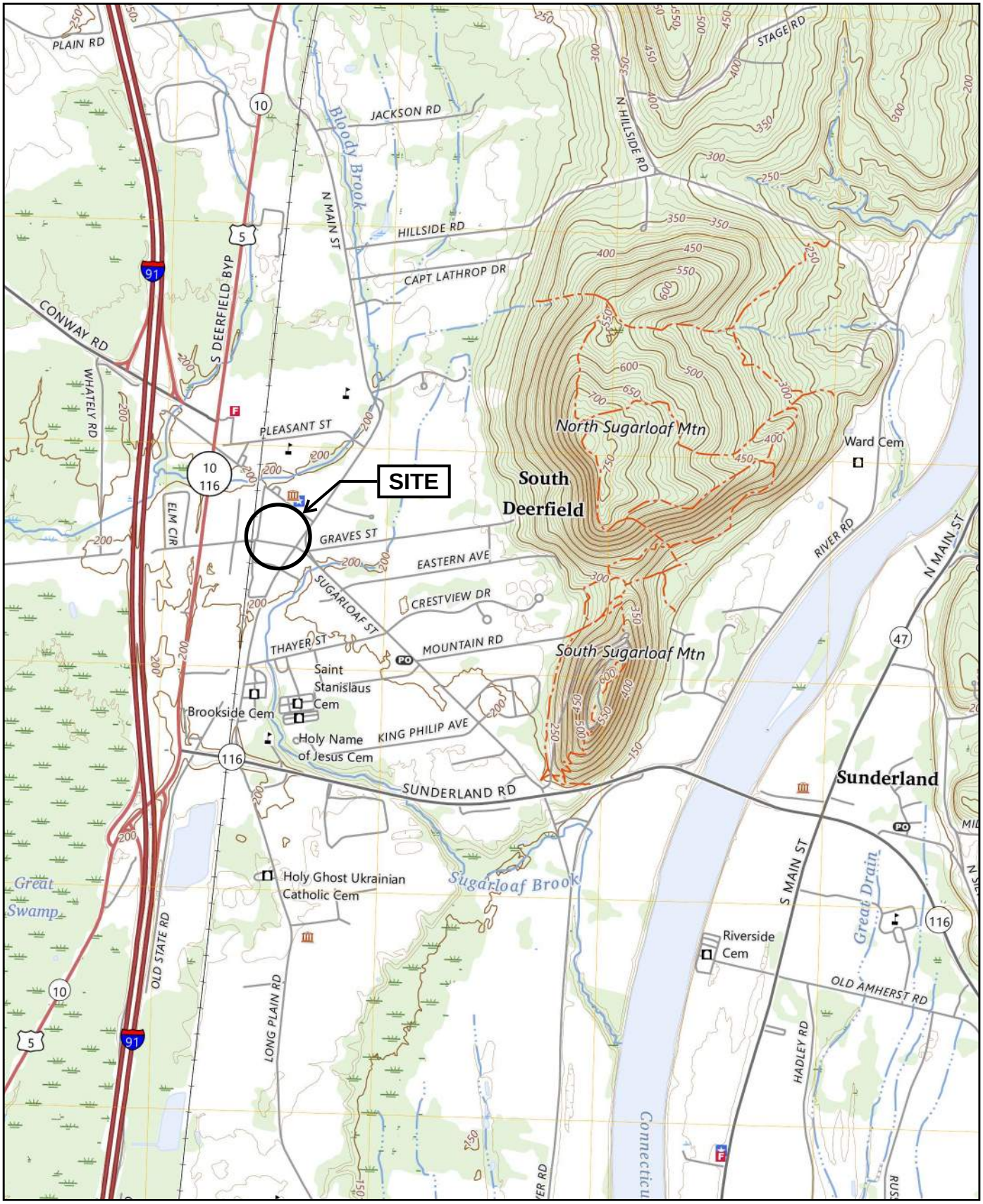
TABLE 3
MONITORING WELL SURVEY AND GROUNDWATER ELEVATION DATA

Deerfield Senior Housing, 85 North Main Street, Deerfield Massachusetts

		October 29, 2024		November 6 and 7, 2024	
Well No.	Reference Elevation (feet)	Depth to water (feet)	Water Table Elevation (feet)	Depth to water (feet)	Water Table Elevation (feet)
DSH-1	98.41	9.50	88.91	9.51	88.90
DSH-2	99.22	10.21	89.01	10.20	89.02
DSH-3	99.09	9.88	89.21	9.93	89.16
DSH-5	99.89	10.56	89.33	10.60	89.29

NOTES:
1. Elevations relative to an arbitrary datum assigned elevation 100.00 feet set at the bottom concrete stair of the rectory building.
2. Measurements made from top of PVC using an electronic water level indicator.

FIGURES



1:24,000 SCALE NORTH AMERICAN VERTICAL DATUM 1988 10 FOOT CONTOUR INTERVAL

O:\J3700\3771 Deerfield Senior Housing\Figures\Figure 1 - Site Locus (24k scale).pdf

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

LIMITED SUBSURFACE ASSESSMENT

85 NORTH MAIN STREET
DEERFIELD, MASSACHUSETTS

SITE LOCUS

Topographic Map Quadrants: MOUNT TOBY, MA
Map Version: 2024
Current As Of: 2024
Date: NOVEMBER 2024

PROJECT No. J3771-01-01

FIGURE No. 1

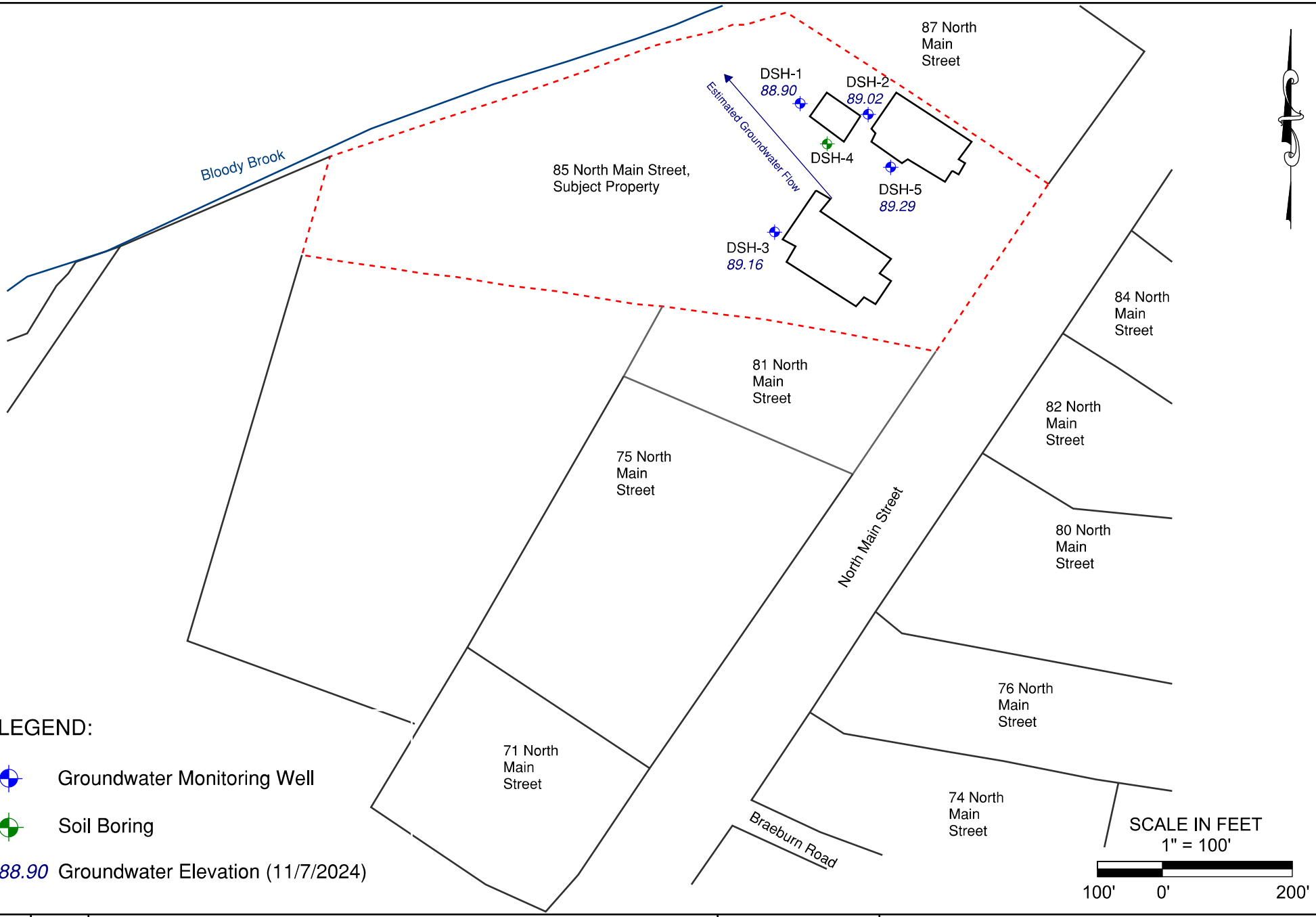


FIGURE No. 2

PROJECT No. J3771-01-01

SITE SKETCH WITH BORING LOCATIONS

85 NORTH MAIN STREET
DEERFIELD, MASSACHUSETTS

SITE PLAN

DESIGNED BY: JLH
DRAWN BY: JLH
CHECKED BY:
DATE: 12/5/23
REV. DATE:

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APPENDIX A

LIMITATIONS

1. 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.

2. 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 the files of state or local regulatory agencies. 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.

3. Unless otherwise specified in the Report, we did not perform testing or analyses to determine the presence or concentration of asbestos or polychlorinated biphenyls (PCBs) at the Site or in the environment at the Site.

4. This Report assesses the physical characteristics of the subject site with respect to the presence of oil or hazardous material (OHM) in soil or groundwater at the Site, and to assess risks associated with detected OHM, within the meaning of the Massachusetts Contingency Plan, 310 CMR 40.0000. 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.

5. Risk assessment was performed in accordance with generally accepted practices of government agencies and other consultants conducting similar characterizations. The findings of the risk characterization are dependent on numerous assumptions and uncertainties inherent in the risk assessment process. Therefore, the findings of the risk assessment should not be interpreted as an absolute characterization of actual risks, but as general indicators highlighting potential sources of risk at the Site. Although the range of uncertainty in the risk characterization has not (and can not) be quantified, the use of conservative assumptions throughout the process would be expected to err on the side of protection of human health and the environment.

6. Where analytical data or information regarding site environmental conditions was unavailable or limited, we render no opinion as to risks due to oil and/or hazardous materials in those portions of the Site, or to oil and/or hazardous materials not tested.

7. Our report was prepared for the exclusive benefit of the client. The report and its conclusions are not extended to third parties or future property owners. We acknowledge copies of our report may be submitted to Massachusetts Department of Environmental Protection for Massachusetts Contingency Plan compliance purposes.

APPENDIX B

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 DSH-1

PROJECT	Town of Deerfield - Senior Housing			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	3771-01-01	FINAL DEPTH (ft)	17'	DRILLING EQUIPMENT	Geoprobe 6620-DT		
LOCATION	85 N. Main St, Deerfield, MA	SURFACE ELEV (ft)		FOREMAN	Ben	CASING	
START DATE	10/29/2024	DISTURBED SAMPLES		HELPER	Damiane	CASE DIAMETER	N/A
FINISH DATE	10/29/2024	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Jessica Hoffman	WATER LEVEL		ROD TYPE	Probe Rod (2.25" O.D.)	HAMMER DROP	N/A
BORING LOCATION	Northwest of the garage	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	Soil Probing Hammer	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
		39/60			5" Asphalt, 5" Dark brown fine to medium SAND, trace silt, dry		
			S-1 2-5'	ND	26" Brown fine to medium SAND, some silt, dry		
5'		42/60	S-2 5-10'	ND	2" Dark Brown, fine to medium SAND, trace silt, 8" Brown, fine SAND and SILT, 4' Brown, fine to medium SAND, trace silt, damp		
10'		60/60	S-3 10-13'	ND	2' Brown, fine to medium SAND, trace silt, wet 12" Orange/brown fine SAND, trace silt, wet		
			S-4 14-15'	ND	12" Brown and Black alternating stripes of fine SAND, trace silt, wet		
15'					End of Exploration at 17'		
20'							
25'							

Remarks:

1. Well set at 17'
2. 10' screen, 7' riser, sand to 4', 1' of bentonit, remaining is natural fill

PROJECT NO.
3771-01-01

LOG OF BORING
DSH-1

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LOG OF BORING DSH-2

PROJECT	Town of Deerfield - Senior Housing			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	3771-01-01	FINAL DEPTH (ft)	17'	DRILLING EQUIPMENT	Geoprobe 6620-DT		
LOCATION	85 N. Main St, Deerfield, MA	SURFACE ELEV (ft)		FOREMAN	Ben	CASING	
START DATE	10/29/2024	DISTURBED SAMPLES		HELPER	Damiane	CASE DIAMETER	N/A
FINISH DATE	10/29/2024	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Jessica Hoffman	WATER LEVEL		ROD TYPE	Probe Rod (2.25" O.D.)	HAMMER DROP	N/A
BORING LOCATION	Northwest of rectory, between garage and rectory	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	Soil Probing Hammer	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
		28/60	S-1 0-5	ND	6" TOPSOIL, small roots, brown, fine to medium sand, dry 22" Brown, fine SAND, trace silt, dry		
5'		55/60	S-2 5-7.5	ND	24" Brown, fine to medium SAND, trace silt, dry		
			S-3 7.5	ND	6" Brown, Fine to medium SAND, trace silt, wet		
			S-4 8-10'	ND	24" Brown, fine to medium SAND, trace silt, wet		
10'		60/60	S-5 10-15	ND	12" Brown Fine to medium SAND, trace silt, damp 48" Brown and orange alternating stripes, fine to medium SAND, wet		
15'					End of Exploration at 17'		
20'							
25'							

Remarks:

1. Well set at 17'
2. 10' screen, 7' riser, sand to 4', 1' of bentonit, remaining is natural fill

PROJECT NO.
3771-01-01

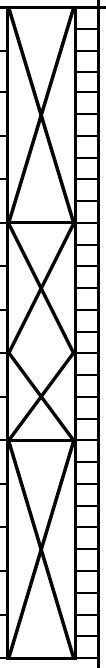
LOG OF BORING
DSH-2

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING DSH-3

PROJECT	Town of Deerfield - Senior Housing			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	3771-01-01	FINAL DEPTH (ft)	17'	DRILLING EQUIPMENT	Geoprobe 6620-DT		
LOCATION	85 N. Main St, Deerfield, MA	SURFACE ELEV (ft)		FOREMAN	Ben	CASING	
START DATE	10/29/2024	DISTURBED SAMPLES		HELPER	Damiane	CASE DIAMETER	N/A
FINISH DATE	10/29/2024	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Jessica Hoffman	WATER LEVEL		ROD TYPE	Probe Rod (2.25" O.D.)	HAMMER DROP	N/A
BORING LOCATION	northwest of church	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	Soil Probing Hammer	TYPE	N/A
		TIME (hr)		HAMMER WGT/DROP		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
		Preclear	S-1 0-5'	ND	Brown, fine SAND and SILT		
5'		60/60	S-2 5-8'	ND	36" Dark to light brown, fine to medium SAND, trace silt, dry		
			S-3 8-10'	0.0	24" Tan and orange stripes, fine to medium SAND, trace silt, damp		
10'		18/90	S-4 10-15	ND	18" Brown, fine to medium SAND, trace silt, wet		
15'					End of Exploration at 17'		
20'							
25'							



Remarks:

1. Well set at 17'
2. 10' screen, 7' riser, sand to 4', 1' of bentonit, remaining is natural fill

PROJECT NO. 3771-01-01

LOG OF BORING DSH-3

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING DSH-4

PROJECT	Town of Deerfield - Senior Housing			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	3771-01-01	FINAL DEPTH (ft)	17'	DRILLING EQUIPMENT	Geoprobe 6620-DT		
LOCATION	85 N. Main St, Deerfield, MA	SURFACE ELEV (ft)		FOREMAN	Ben	CASING	
START DATE	10/29/2024	DISTURBED SAMPLES		HELPER	Damiane	CASE DIAMETER	N/A
FINISH DATE	10/29/2024	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Jessica Hoffman	WATER LEVEL		ROD TYPE	Probe Rod (2.25" O.D.)	HAMMER DROP	N/A
BORING LOCATION	South of garage (adjacent to temporary storage container)	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	Soil Probing Hammer	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
		Preclear	S-1 0-5'	ND	Brown, fine SAND, trace silt, dry		
5'		60/60	S-3 6-8'	ND	24" Brown, fine SAND, trace silt, dry		
			S-4 8-10'	ND	24" Brown and orange stripes going vertically, fine SAND, trace silt, damp		
10'		60/60	S-5 11-13'	ND	24" Brown, fine SAND, trace silt, wet		
			S-6 13-15'	ND	24" Brown with orange stripes, Fine to medium SAND, trace silt, wet		
15'					End of Exploration at 17'		
20'							
25'							

Remarks:

1. Well set at 17'
2. 10' screen, 7' riser, sand to 4', 1' of bentonit, remaining is natural fill

PROJECT NO. 3771-01-01

LOG OF BORING DSH-4

O'Reilly, Talbot & Okun
ENGINEERING ASSOCIATES

LOG OF BORING DSH-5

PROJECT	Town of Deerfield - Senior Housing			CONTRACTOR	Martin Geo Environmental		
JOB NUMBER	3771-01-01	FINAL DEPTH (ft)	17'	DRILLING EQUIPMENT	Geoprobe 6620-DT		
LOCATION	85 N. Main St, Deerfield, MA	SURFACE ELEV (ft)		FOREMAN	Ben	CASING	
START DATE	10/29/2024	DISTURBED SAMPLES		HELPER	Damiane	CASE DIAMETER	N/A
FINISH DATE	10/29/2024	UNDISTURBED SAMPLES		BIT TYPE	Direct Push	HAMMER WGT	N/A
ENGINEER/SCIENTIST	Jessica Hoffman	WATER LEVEL		ROD TYPE	Probe Rod (2.25" O.D.)	HAMMER DROP	N/A
BORING LOCATION	South of concrete steps to door of rectory	FIRST (ft)		SAMPLER	5' Dual Tube Liner	ROCK CORING INFORMATION	
		LAST (ft)		HAMMER TYPE	Soil Probing Hammer	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
		Preclear	S-1 0-5'	ND	Brown, fine SAND and SILT		
5'		60/60	S-2 5-10'	ND	48" Light brownish grey, fine to medium SAND, trace silt		
10'		48/60	S-3 11-13	ND	24" Light brown, fine to medium SAND, trace silt, damp		
			S-4 13-15'	ND	24" Orange and brown stripes, fine to medium SAND, trace silt, wet		
15'					End of Exploration at 17'		
20'							
25'							

Remarks:

1. Well set at 17'
2. 10' screen, 7' riser, sand to 4', 1' of bentonit, remaining is natural fill

PROJECT NO. 3771-01-01

LOG OF BORING DSH-5

APPENDIX C

Wednesday, November 06, 2024

Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Project ID: 1389-18-02
SDG ID: GCR96151
Sample ID#s: CR96151 - CR96155

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

November 06, 2024

SDG I.D.: GCR96151

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 06, 2024

SDG I.D.: GCR96151

Project ID: 1389-18-02

Client Id	Lab Id	Matrix
DSH-1 S-3 10-13`	CR96151	SOIL
DSH-2 S-5 11-15`	CR96152	SOIL
DSH-3 S3 8-10`	CR96153	SOIL
DSH-4 S4 8-10`	CR96154	SOIL
DSH-5 S4 13-15`	CR96155	SOIL

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 06, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JH	10/29/24	
Location Code:	OREILLY-MA	Received by:	SR1	10/30/24	14:39
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR96151
Phoenix ID: CR96151

Project ID: 1389-18-02
Client ID: DSH-1 S-3 10-13`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	78		%		10/30/24	CV	SW846-%Solid
EPH Extraction	Completed				10/31/24	K/K	SW3546
Soil Extraction for SVOA PAH	Completed				11/01/24	K/H/T	SW3546
Ext. Petroleum Hydrocarbons	Completed				10/30/24		MADEP EPH-19
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Acenaphthene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Naphthalene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Phenanthrene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	75		%	1	11/02/24	KCA	30 - 130 %
% Nitrobenzene-d5	86		%	1	11/02/24	KCA	30 - 130 %
% Terphenyl-d14	82		%	1	11/02/24	KCA	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	101		%	1	10/31/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	10/31/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	79		%	1	10/31/24	AW	40 - 140 %
% o-terphenyl (aromatic)	75		%	1	10/31/24	AW	40 - 140 %

Project ID: 1389-18-02
Client ID: DSH-1 S-3 10-13`

Phoenix I.D.: CR96151

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 06, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 06, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JH	10/29/24	
Location Code:	OREILLY-MA	Received by:	SR1	10/30/24	14:39
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR96151
Phoenix ID: CR96152

Project ID: 1389-18-02
Client ID: DSH-2 S-5 11-15`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	77		%		10/30/24	CV	SW846-%Solid
EPH Extraction	Completed				10/31/24	K/K	SW3546
Soil Extraction for SVOA PAH	Completed				11/01/24	K/H/T	SW3546
Ext. Petroleum Hydrocarbons	Completed				10/30/24		MADEP EPH-19
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	0.3	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Acenaphthene	ND	0.3	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Naphthalene	ND	0.3	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Phenanthrene	ND	0.3	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	67		%	1	11/02/24	KCA	30 - 130 %
% Nitrobenzene-d5	76		%	1	11/02/24	KCA	30 - 130 %
% Terphenyl-d14	77		%	1	11/02/24	KCA	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	85	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	85	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	85	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	85	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	93		%	1	10/31/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	86		%	1	10/31/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	75		%	1	10/31/24	AW	40 - 140 %
% o-terphenyl (aromatic)	67		%	1	10/31/24	AW	40 - 140 %

Ver 1

Project ID: 1389-18-02
Client ID: DSH-2 S-5 11-15`

Phoenix I.D.: CR96152

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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Phyllis Shiller, Laboratory Director
November 06, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 06, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JH	10/29/24	
Location Code:	OREILLY-MA	Received by:	SR1	10/30/24	14:39
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR96151
Phoenix ID: CR96153

Project ID: 1389-18-02
Client ID: DSH-3 S3 8-10`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		10/30/24	CV	SW846-%Solid
EPH Extraction	Completed				10/31/24	K/K	SW3546
Soil Extraction for SVOA PAH	Completed				11/01/24	H/T	SW3546
Ext. Petroleum Hydrocarbons	Completed				10/30/24		MADEP EPH-19
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Acenaphthene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Naphthalene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Phenanthrene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	70		%	1	11/02/24	KCA	30 - 130 %
% Nitrobenzene-d5	83		%	1	11/02/24	KCA	30 - 130 %
% Terphenyl-d14	85		%	1	11/02/24	KCA	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	74	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	74	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	74	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	74	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	106		%	1	10/31/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	101		%	1	10/31/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	81		%	1	10/31/24	AW	40 - 140 %
% o-terphenyl (aromatic)	78		%	1	10/31/24	AW	40 - 140 %

Ver 1

Project ID: 1389-18-02
Client ID: DSH-3 S3 8-10`

Phoenix I.D.: CR96153

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

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RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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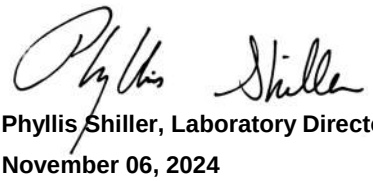

Phyllis Shiller, Laboratory Director
November 06, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 06, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JH	10/29/24	
Location Code:	OREILLY-MA	Received by:	SR1	10/30/24	14:39
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR96151
Phoenix ID: CR96154

Project ID: 1389-18-02
Client ID: DSH-4 S4 8-10`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	88		%		10/30/24	CV	SW846-%Solid
EPH Extraction	Completed				10/31/24	K/K	SW3546
Soil Extraction for SVOA PAH	Completed				11/01/24	H/T	SW3546
Ext. Petroleum Hydrocarbons	Completed				10/30/24		MADEP EPH-19
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Acenaphthene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Naphthalene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Phenanthrene	ND	0.26	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	67		%	1	11/02/24	KCA	30 - 130 %
% Nitrobenzene-d5	81		%	1	11/02/24	KCA	30 - 130 %
% Terphenyl-d14	79		%	1	11/02/24	KCA	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	75	mg/Kg	1	11/01/24	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	75	mg/Kg	1	11/01/24	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	75	mg/Kg	1	11/01/24	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	75	mg/Kg	1	11/01/24	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	65		%	1	11/01/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	79		%	1	11/01/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	90		%	1	11/01/24	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	11/01/24	AW	40 - 140 %

Ver 1

Project ID: 1389-18-02
Client ID: DSH-4 S4 8-10`

Phoenix I.D.: CR96154

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

Massachusetts does not offer certification for Soil/Solid matrices.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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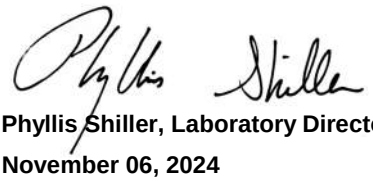


Phyllis Shiller, Laboratory Director
November 06, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 06, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	SOIL	Collected by:	JH	10/29/24	
Location Code:	OREILLY-MA	Received by:	SR1	10/30/24	14:39
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:					

Laboratory Data

SDG ID: GCR96151
Phoenix ID: CR96155

Project ID: 1389-18-02
Client ID: DSH-5 S4 13-15`

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Percent Solid	78		%		10/30/24	CV	SW846-%Solid
EPH Extraction	Completed				10/31/24	K/K	SW3546
Soil Extraction for SVOA PAH	Completed				11/01/24	H/T	SW3546
Ext. Petroleum Hydrocarbons	Completed				10/30/24		MADEP EPH-19
EPH Diesel PAH Target Analytes							
2-Methylnaphthalene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Acenaphthene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Naphthalene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
Phenanthrene	ND	0.29	mg/Kg	1	11/02/24	KCA	MA EPH 5/2004
QA/QC Surrogates							
% 2-Fluorobiphenyl	68		%	1	11/02/24	KCA	30 - 130 %
% Nitrobenzene-d5	78		%	1	11/02/24	KCA	30 - 130 %
% Terphenyl-d14	83		%	1	11/02/24	KCA	30 - 130 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	84	mg/Kg	1	10/31/24	AW	MA EPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	108		%	1	10/31/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	10/31/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	84		%	1	10/31/24	AW	40 - 140 %
% o-terphenyl (aromatic)	78		%	1	10/31/24	AW	40 - 140 %

Ver 1

Project ID: 1389-18-02
Client ID: DSH-5 S4 13-15`

Phoenix I.D.: CR96155

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

Massachusetts does not offer certification for Soil/Solid matrices.

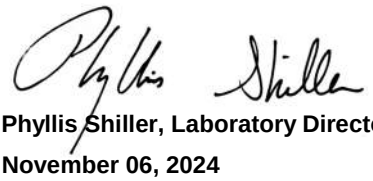
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C22 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

All soils, solids and sludges are reported on a dry weight basis unless otherwise noted in the sample comments.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 06, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

November 06, 2024

QA/QC Data

SDG I.D.: GCR96151

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 756111 (mg/kg), QC Sample No: CR96151 (CR96151, CR96152, CR96153, CR96154, CR96155)											
Extractable Petroleum Hydrocarbons - Soil											
C11-C22 Aromatic Hydrocarbons U	ND	3.3							40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	3.3	61	63	3.2	62	57	8.4	40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	3.3	73	73	0.0	73	67	8.6	40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	3.3	75	78	3.9	76	75	1.3	40 - 140	25	
C9 - Nonane	ND	0.67	37	41	10.3	41	38	7.6	40 - 140	25	l,m
C-10 Decane	ND	0.67	46	51	10.3	49	46	6.3	40 - 140	25	
C12 - Dodecane	ND	0.67	53	57	7.3	56	52	7.4	40 - 140	25	
C14 - Tetradecane	ND	0.67	59	62	5.0	59	55	7.0	40 - 140	25	
C16 - Hexadecane	ND	0.67	70	73	4.2	70	65	7.4	40 - 140	25	
C18 - Octadecane	ND	0.67	97	97	0.0	96	89	7.6	40 - 140	25	
C19 - Nonadecane	ND	0.67	79	81	2.5	82	75	8.9	40 - 140	25	
C20 - Eicosane	ND	0.67	84	85	1.2	84	78	7.4	40 - 140	25	
C22 - Docosane	ND	0.67	90	88	2.2	91	85	6.8	40 - 140	25	
C24 - Tetracosane	ND	0.67	77	77	0.0	76	71	6.8	40 - 140	25	
C26 - Hexacosane	ND	0.67	76	76	0.0	74	69	7.0	40 - 140	25	
C28 - Octacosane	ND	0.67	73	74	1.4	73	67	8.6	40 - 140	25	
C30 - Tricotane	ND	0.67	75	76	1.3	74	68	8.5	40 - 140	25	
C36 - Hexatriacontane	ND	0.67	27	29	7.1	27	24	11.8	40 - 140	25	l,m
% 1-chlorooctadecane (aliphatic)	75	%	72	75	4.1	70	66	5.9	40 - 140	25	
% o-terphenyl (aromatic)	87	%	86	88	2.3	88	86	2.3	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	99	%	97	101	4.0	101	99	2.0	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	96	%	97	99	2.0	98	100	2.0	40 - 140	25	
% 2-Methylnaphthalene BT		%	1.9	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		

Comment:

Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

QA/QC Batch 756383 (mg/Kg), QC Sample No: CR95527 (CR96151, CR96152)

Polynuclear Aromatic HC - Soil

2-Methylnaphthalene	ND	0.23	76	78	2.6	53	48	9.9	40 - 140	30	
Acenaphthene	ND	0.23	83	86	3.6	75	73	2.7	40 - 140	30	
Naphthalene	ND	0.23	75	77	2.6	63	59	6.6	40 - 140	30	
Phenanthrene	ND	0.23	86	88	2.3	74	72	2.7	40 - 140	30	
% 2-Fluorobiphenyl	67	%	78	78	0.0	71	71	0.0	30 - 130	30	
% Nitrobenzene-d5	70	%	74	77	4.0	79	78	1.3	30 - 130	30	
% Terphenyl-d14	69	%	80	82	2.5	74	73	1.4	30 - 130	30	

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Data

SDG I.D.: GCR96151

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 756446 (mg/Kg), QC Sample No: CR96154 (CR96153, CR96154, CR96155)										
Polynuclear Aromatic HC - Soil										
2-Methylnaphthalene	ND	0.23	79	78	1.3	70	72	2.8	40 - 140	30
Acenaphthene	ND	0.23	77	77	0.0	72	72	0.0	40 - 140	30
Naphthalene	ND	0.23	69	68	1.5	61	64	4.8	40 - 140	30
Phenanthrene	ND	0.23	78	78	0.0	74	74	0.0	40 - 140	30
% 2-Fluorobiphenyl	67	%	66	68	3.0	61	61	0.0	30 - 130	30
% Nitrobenzene-d5	82	%	81	76	6.4	73	72	1.4	30 - 130	30
% Terphenyl-d14	85	%	81	81	0.0	81	74	9.0	30 - 130	30

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
November 06, 2024

Wednesday, November 06, 2024

Criteria: MA: CAM, S1

State: MA

Sample Criteria Exceedances Report

GCR96151 - OREILLY-MA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 1389-18-02 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
CR96151, CR96152, CR96153, CR96154, CR96155

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

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ 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 speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant 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 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

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? See Section: EPH Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

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

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

Authorized Signature: Ethan Lee

Date: Wednesday, November 06, 2024

Printed Name: Ethan Lee

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 06, 2024

SDG I.D.: GCR96151

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 756111 (Samples: CR96151, CR96152, CR96153, CR96154, CR96155): -----

The QC recoveries for one or more analytes is below the method criteria. A slight low bias is likely. (C9 - Nonane, C36 - Hexatriacontane)

Instrument:

AU-FID3 11/01/24-1 Adam Werner, Chemist 11/01/24

CR96154 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR1009BI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 10/31/24-1 Adam Werner, Chemist 10/31/24

CR96151 (1X), CR96152 (1X), CR96153 (1X), CR96155 (1X)

The initial calibration (AL1008AI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 11/01/24-1 Adam Werner, Chemist 11/01/24

CR96154 (1X)

The initial calibration (AL1008AI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 756111 (CR96151)

CR96151, CR96152, CR96153, CR96154, CR96155

All LCS recoveries were within 40 - 140 with the following exceptions: C36 - Hexatriacontane(27%), C9 - Nonane(37%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C36 - Hexatriacontane(29%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury 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.

SVOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM28 11/01/24-2 Robert Looney, Chemist 11/01/24

CR96151 (1X), CR96152 (1X), CR96153 (1X), CR96154 (1X), CR96155 (1X)

For 8270 full list, the DDT breakdown and pentachlorophenol & benzidine peak tailing were evaluated in the DFTPP tune and were found to be in control.
For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 06, 2024

SDG I.D.: GCR96151

SVOA Narration

Instrument:

CHEM28 11/01/24-2 Robert Looney, Chemist 11/01/24

CR96151 (1X), CR96152 (1X), CR96153 (1X), CR96154 (1X), CR96155 (1X)

Initial Calibration Evaluation (CHEM28/28_BNA_1028):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.

Continuing Calibration Verification (CHEM28/1101_30-28_BNA_1028) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
96% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

QC (Batch Specific):

Batch 756383 (CR95527)

CR96151, CR96152

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

Batch 756446 (CR96154)

CR96153, CR96154, CR96155

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury 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.

Cooler: Yes [X] No [ ]
Coolant: IPK [X] ICE [ ] No [ ]

PHOENIX
Environmental Laboratories, Inc.

CT/MA/RI CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 1.9 °C Pg 1 of 1

Data Delivery/Contact Options:
[ ] Fax:
[ ] Phone:
[X] Email: MCcarthy@OTO-env.com

Customer: Oreilly, talbot + okun
Address: 293 Bridge St Suite 500
Springfield, MA

Project: 1389-18-02
Report to: Lori McCarthy
Invoice to: Bilden@OTO-env.com
Quote #

Project P.O:

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Jessica Hoffman Date: 10/29/21

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water
RW=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil
B=Bulk **L**=Liquid **X** = _____(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	eph hydrocarbon fractions + fuel oil PAH	GL Amber 8 oz [ ] w/H2PO4 [ ] NaHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( ) oz	GL Soil container ( ) oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] As is [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
96151	DSH-1 S-3 10-13'	Soil	10/29/21			X		1										
96152	DSH-2 S-5 11-15'					X		1										
96153	DSH 3 S3 8-10'					X		1										
96154	DSH 4 S4 8-10'					X		1										
96155	DSH 5 S4 13-15'					X		1										

Relinquished by:	Accepted by:	Date:	Time:
Jessica Hoffman		10/29/21	1100
		11/3/21	1439

Comments, Special Requirements or Regulations:

Turnaround Time:
[ ] 1 Day* [X] Standard
[ ] 2 Days* [ ] Other
[ ] 3 Days*
[ ] 4 Days*
[ ] 5 Days*

RI
[ ] RES DEC
[ ] I/C DEC
[ ] GA Leachability
[ ] GB Leachability
[ ] GA -GW Objectives
[ ] GB -GW Objectives
[ ] Other

CT
[ ] RCP Cert
[ ] GWPC
[ ] SWPC
[ ] GA PMC
[ ] GB PMC
[ ] SWPC
[ ] RES DEC
[ ] I/C DEC

MA
[X] MCP Certification
[X] GW-1 [X] RCS-1 / RCGW-1
[ ] GW-2 [ ] RCS-2 / RCGW-2
[ ] GW-3
[X] S-1 [ ] S-1 Calc.
[ ] S-2
[ ] S-3 [ ] _____
[ ] SW Protection

Data Format
[X] Excel
[X] PDF
[ ] GIS/Key
[ ] EQuIS
[ ] Other

Data Package
[ ] Tier II Checklist*
[ ] Full Data Package*
[X] Phoenix Std
[ ] Other

***MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.**

*** SURCHARGES MAY APPLY**

State where samples were collected: MA

*** SURCHARGE APPLIES**

Form PEL-126 Rev. 9/23

Page 20 of 20

Wednesday, November 13, 2024

Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Project ID: 3771-01-01
SDG ID: GCS01950
Sample ID#s: CS01950 - CS01953

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

November 13, 2024

SDG I.D.: GCS01950

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 13, 2024

SDG I.D.: GCS01950

Project ID: 3771-01-01

Client Id	Lab Id	Matrix
DSH-1	CS01950	GROUND WATER
DSH-2	CS01951	GROUND WATER
DSH-3	CS01952	GROUND WATER
DSH-5	CS01953	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 13, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JH	11/06/24	12:52
Location Code:	OREILLY-MA	Received by:	B	11/07/24	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	3771-01-01				

Laboratory Data

SDG ID: GCS01950
Phoenix ID: CS01950

Project ID: 3771-01-01
Client ID: DSH-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				11/08/24	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				11/08/24	Z/MQ	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				11/07/24		MADEP EPH-19
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.48	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Acenaphthene	ND	0.48	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Naphthalene	ND	0.48	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Phenanthrene	ND	0.48	ug/L	1	11/11/24	KCA	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	11/11/24	KCA	40 - 140 %
% Nitrobenzene-d5	72		%	1	11/11/24	KCA	40 - 140 %
% Terphenyl-d14	92		%	1	11/11/24	KCA	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	93		%	1	11/09/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	55		%	1	11/09/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	66		%	1	11/09/24	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	11/09/24	AW	40 - 140 %

Project ID: 3771-01-01
Client ID: DSH-1

Phoenix I.D.: CS01950

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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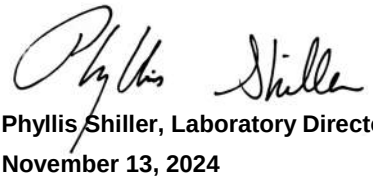

Phyllis Shiller, Laboratory Director
November 13, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 13, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JH	11/06/24	10:38
Location Code:	OREILLY-MA	Received by:	B	11/07/24	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	3771-01-01				

Laboratory Data

SDG ID: GCS01950
Phoenix ID: CS01951

Project ID: 3771-01-01
Client ID: DSH-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				11/08/24	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				11/08/24	Z/MQ	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				11/07/24		MADEP EPH-19
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.47	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Acenaphthene	ND	0.47	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Naphthalene	ND	0.47	ug/L	1	11/11/24	KCA	SW8270E (SIM)
Phenanthrene	ND	0.47	ug/L	1	11/11/24	KCA	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	66		%	1	11/11/24	KCA	40 - 140 %
% Nitrobenzene-d5	63		%	1	11/11/24	KCA	40 - 140 %
% Terphenyl-d14	79		%	1	11/11/24	KCA	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	190	ug/L	1	11/13/24	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	190	ug/L	1	11/13/24	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/13/24	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/13/24	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	44		%	1	11/13/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	73		%	1	11/13/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	84		%	1	11/13/24	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	11/13/24	AW	40 - 140 %

Project ID: 3771-01-01
Client ID: DSH-2

Phoenix I.D.: CS01951

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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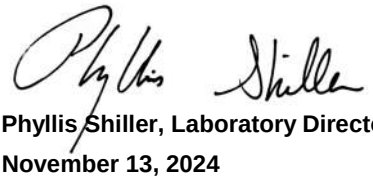

Phyllis Shiller, Laboratory Director
November 13, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 13, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JH	11/06/24	13:57
Location Code:	OREILLY-MA	Received by:	B	11/07/24	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	3771-01-01				

Laboratory Data

SDG ID: GCS01950
Phoenix ID: CS01952

Project ID: 3771-01-01
Client ID: DSH-3

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				11/08/24	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				11/11/24	Z/MQ	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				11/07/24		MADEP EPH-19
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.48	ug/L	1	11/12/24	MR	SW8270E (SIM)
Acenaphthene	ND	0.48	ug/L	1	11/12/24	MR	SW8270E (SIM)
Naphthalene	ND	0.48	ug/L	1	11/12/24	MR	SW8270E (SIM)
Phenanthrene	ND	0.48	ug/L	1	11/12/24	MR	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	59		%	1	11/12/24	MR	40 - 140 %
% Nitrobenzene-d5	65		%	1	11/12/24	MR	40 - 140 %
% Terphenyl-d14	48		%	1	11/12/24	MR	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	91		%	1	11/09/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	71		%	1	11/09/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	66		%	1	11/09/24	AW	40 - 140 %
% o-terphenyl (aromatic)	79		%	1	11/09/24	AW	40 - 140 %

Ver 1

Project ID: 3771-01-01
Client ID: DSH-3

Phoenix I.D.: CS01952

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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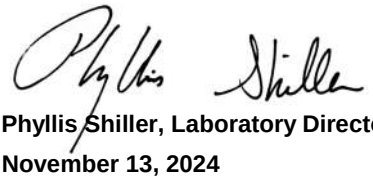

Phyllis Shiller, Laboratory Director
November 13, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

Analysis Report

November 13, 2024

FOR: Attn: Lori McCarthy
O'Reilly Talbot & Okun
293 Bridge Street Suite 500
Springfield, MA 01103

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	JH	11/06/24	11:45
Location Code:	OREILLY-MA	Received by:	B	11/07/24	15:15
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	3771-01-01				

Laboratory Data

SDG ID: GCS01950
Phoenix ID: CS01953

Project ID: 3771-01-01
Client ID: DSH-5

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				11/08/24	CV/CV	SW3510C
Semi-Volatile Extraction	Completed				11/11/24	Z/MQ	SW3520C
MA Petroleum Hydrocarbon (EPH)	Completed				11/07/24		MADEP EPH-19
Semivolatiles by SIM							
2-Methylnaphthalene	ND	0.47	ug/L	1	11/12/24	MR	SW8270E (SIM)
Acenaphthene	ND	0.47	ug/L	1	11/12/24	MR	SW8270E (SIM)
Naphthalene	ND	0.47	ug/L	1	11/12/24	MR	SW8270E (SIM)
Phenanthrene	ND	0.47	ug/L	1	11/12/24	MR	SW8270E (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	62		%	1	11/12/24	MR	40 - 140 %
% Nitrobenzene-d5	65		%	1	11/12/24	MR	40 - 140 %
% Terphenyl-d14	52		%	1	11/12/24	MR	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C11-C22 Aromatic Hydrocarbons Un	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	11/09/24	AW	MAEPH 5/2019
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	101		%	1	11/09/24	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	62		%	1	11/09/24	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	76		%	1	11/09/24	AW	40 - 140 %
% o-terphenyl (aromatic)	88		%	1	11/09/24	AW	40 - 140 %

Ver 1

Project ID: 3771-01-01
Client ID: DSH-5

Phoenix I.D.: CS01953

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

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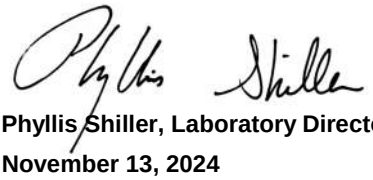

Phyllis Shiller, Laboratory Director
November 13, 2024
Reviewed and Released by: Ethan Lee, Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102

QA/QC Report

November 13, 2024

QA/QC Data

SDG I.D.: GCS01950

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 757426 (ug/L), QC Sample No: CR97994 (CS01950, CS01951, CS01952, CS01953)										
MAEPH - Ground Water										
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	58	61	5.0				40 - 140	25
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	66	73	10.1				40 - 140	25
C11-C22 Aromatic Hydrocarbons 1	ND	100	73	70	4.2				40 - 140	25
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25
C9 - Nonane	ND	10	41	42	2.4				40 - 140	25
C-10 Decane	ND	10	51	52	1.9				40 - 140	25
C12 - Dodecane	ND	10	54	57	5.4				40 - 140	25
C14 - Tetradecane	ND	10	61	65	6.3				40 - 140	25
C16 - Hexadecane	ND	10	67	72	7.2				40 - 140	25
C18 - Octadecane	ND	10	73	80	9.2				40 - 140	25
C19 - Nonadecane	ND	10	71	78	9.4				40 - 140	25
C20 - Eicosane	ND	10	72	80	10.5				40 - 140	25
C22 - Docosane	ND	10	60	66	9.5				40 - 140	25
C24 - Tetracosane	ND	10	71	78	9.4				40 - 140	25
C26 - Hexacosane	ND	10	70	77	9.5				40 - 140	25
C28 - Octacosane	ND	10	67	74	9.9				40 - 140	25
C30 - Tricotane	ND	10	69	75	8.3				40 - 140	25
C36 - Hexatriacontane	ND	10	46	53	14.1				40 - 140	25
% 1-chlorooctadecane (aliphatic)	61	%	63	70	10.5				40 - 140	25
% o-terphenyl (aromatic)	66	%	84	80	4.9				40 - 140	25
% 2-Fluorobiphenyl (Fractionation)	79	%	94	83	12.4				40 - 140	25
% 2-Bromonaphthalene (Fractionati	64	%	90	81	10.5				40 - 140	25
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5	
% Naphthalene BT		%	0	0	NC				0 - 5	

Comment:

Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

QA/QC Batch 757562 (ug/L), QC Sample No: CS01712 (CS01950, CS01951)

Semivolatiles by SIM, PAH - Ground Water

2-Methylnaphthalene	ND	0.50	60	62	3.3				40 - 140	20
Acenaphthene	ND	0.50	63	68	7.6				40 - 140	20
Naphthalene	ND	0.50	57	59	3.4				40 - 140	20
Phenanthrene	ND	0.06	60	65	8.0				40 - 140	20
% 2-Fluorobiphenyl	56	%	60	64	6.5				40 - 140	20
% Nitrobenzene-d5	47	%	55	56	1.8				40 - 140	20
% Terphenyl-d14	67	%	70	75	6.9				40 - 140	20

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Data

SDG I.D.: GCS01950

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 757800 (ug/L), QC Sample No: CS01952 (CS01952, CS01953)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	61	52	15.9				40 - 140	20	
Acenaphthene	ND	0.50	69	57	19.0				40 - 140	20	
Naphthalene	ND	0.50	66	53	21.8				40 - 140	20	r
Phenanthrene	ND	0.50	69	58	17.3				40 - 140	20	
% 2-Fluorobiphenyl	70	%	60	50	18.2				40 - 140	20	
% Nitrobenzene-d5	67	%	67	60	11.0				40 - 140	20	
% Terphenyl-d14	58	%	55	50	9.5				40 - 140	20	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference
(ISO) - Isotope Dilution

Phyllis Shiller, Laboratory Director
November 13, 2024

Wednesday, November 13, 2024

Criteria: MA: GW1, S1

State: MA

Sample Criteria Exceedances Report

GCS01950 - OREILLY-MA

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

*** No Data to Display ***

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: 3771-01-01 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]
CS01950, CS01951, CS01952, CS01953

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

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☐	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ 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 speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant 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 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

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? See Section: SVOASIM Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

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

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

Authorized Signature: Ethan Lee

Date: Wednesday, November 13, 2024

Printed Name: Ethan Lee

Position: Project Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 13, 2024

SDG I.D.: GCS01950

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 11/11/24-1 Adam Werner, Chemist 11/11/24

CS01951 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR1009BI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 11/08/24-1 Adam Werner, Chemist 11/08/24

CS01950 (1X), CS01952 (1X), CS01953 (1X)

The initial calibration (AL1008AI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 11/11/24-1 Adam Werner, Chemist 11/11/24

CS01951 (1X)

The initial calibration (AL1008AI) RSD for the compound list was less than 25% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 757426 (CR97994)

CS01950, CS01951, CS01952, CS01953

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury 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.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 757800 (Samples: CS01952, CS01953): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Naphthalene)

Instrument:

CHEM27 11/12/24-1 Matt Richard, Chemist 11/12/24

CS01952 (1X), CS01953 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_1021):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 13, 2024

SDG I.D.: GCS01950

SVOASIM Narration

Instrument:

CHEM27 11/12/24-1 Matt Richard, Chemist 11/12/24

CS01952 (1X), CS01953 (1X)

100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.

Continuing Calibration Verification (CHEM27/1112_06-27_BNSIM18_1021) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

CHEM33 11/11/24-1 Matt Richard, Chemist 11/11/24

CS01950 (1X), CS01951 (1X)

Initial Calibration Evaluation (CHEM33/33_PAHSIM_0913):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.

Continuing Calibration Verification (CHEM33/1111_06-33_PAHSIM_0913) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.

QC (Batch Specific):

Batch 757562 (CS01712)

CS01950, CS01951

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

Batch 757800 (CS01952)

CS01952, CS01953

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: Naphthalene(21.8%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 13, 2024

SDG I.D.: GCS01950

SVOASIM Narration

We attest under the pains and penalties of perjury 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.

Cooler: Yes ☐ No ☐
Coolant: IPK ☒ ICE ☐ No ☐

CT/MA/RI CHAIN OF CUSTODY RECORD

PHOENIX *Environmental Laboratories, Inc.*

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: makrina@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-1102

Temp 2.5 Pg 1 of 1

Data Delivery/Contact Options:
☐ Fax:
☐ Phone:
☐ Email: McCarthy@OTO-env.com

Customer: OReilly, Talbot + Okun
Address: 293 Bridge St Suite 500
Springfield, MA

Project: 3771-01-01
Report to: Lori McCarthy
Invoice to: Belden@OTO-env.com
Quote #

Project P.O: 3771-01-01

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature: Jessica Hoffman Date: 11/7/24

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water
RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil
B=Bulk L=Liquid X = ____________(Other)

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	*MS/MSD (May be billable at analysis unit rate)	EPH Petro hydrocarbons only	GL Amber 8 oz. [ ] w/H3PO4 [ ] NAHSO4	Soil VOA Vials [ ] methanol [ ] H2O	GL Soil container ( )oz	GL Soil container ( )oz	40 ml VOA Vial [ ] As is [ ] HCl	GL Amber 1000ml [ ] H2SO4	PL As is [ ] 250ml [ ] 500ml [ ] 1000ml	PL H2SO4 [ ] 250ml [ ] 500ml	PL HNO3 250ml	PL NaOH 250ml	Bacteria Bottle w/thio	Bacteria Bottle as is
01950	DSH-1	GW	11/6/24	1252		X					2							
01951	DSH-2	↓	11/7/24	1038		X					2							
01952	DSH-3	↓	11/6/24	1357		X					2							
01953	DSH-5	↓	11/7/24	1145		X					2							

Relinquished by:	Accepted by:	Date:	Time:
Jessica Hoffman	[signature]	11/7/24	1353
[signature]	[signature]	11/7/24	15:15

Comments, Special Requirements or Regulations:

Turnaround Time:
☐ 1 Day*
☐ 2 Days*
☐ 3 Days*
☐ 4 Days*
☐ 5 Days*
☒ Standard
☐ Other

*** SURCHARGES MAY APPLY**

RI
☐ RES DEC
☐ I/C DEC
☐ GA Leachability
☐ GB Leachability
☐ GA-GW Objectives
☐ GB-GW Objectives
☐ Other

CT
☐ RCP Cert
☐ GWPC
☐ SWPC
☐ GA PMC
☐ GB PMC
☐ SWPC
☐ RES DEC
☐ I/C DEC

MA
☐ MCP Certification
☒ GW-1
☐ GW-2
☐ GW-3
☒ S-1
☐ S-2
☐ S-3
☐ SW Protection
☒ RCS-1 / RCGW-1
☐ RCS-2 / RCGW-2
☐ S-1 Calc.
☐ ________

State where samples were collected: MA

Data Format
☒ Excel
☒ PDF
☐ GIS/Key
☐ EQuIS
☐ Other

Data Package
☐ Tier II Checklist*
☐ Full Data Package*
☒ Phoenix Std
☐ Other

*** SURCHARGE APPLIES**

***MS/MSD are considered site samples and will be billed as such in accordance with the prices quoted.**

Form PEL-126 Rev. 9/23

APPENDIX D

O'Reilly, Talbot & Okun Associates, Inc.
293 Bridge Street, Springfield, Massachusetts 01103
413-788-6222 OTO-ENV.COM

LOW-FLOW GROUNDWATER SAMPLING LOG

Client	Town of Deerfield - Senior Housing	**OTO Job No.** 3771-0-01	**WELL ID:** DSH-1
Location	85 North Main Street, South Deerfield, MA	**Date** 11/6/24	**SAMPLING SEQUENCE NO:** 1054
Personnel	JLH	**Weather** Sun, clouds 70°F	**SKETCH**

Stickup Y/N Distance ground to stickup Rim/PVC	Dislance from Rim to PVC	Tolal Depth of Well (Rim/PVC)	Depth to Product (Rim/PVC)	Depth to Groundwater (Rim/PVC)	Standing Water Column	Depth of Sample Tubing	TOV @ wellhead (ppmV)	Pump Peristaltic or Bladder
–	4.00	14.35	–	9.51	4.81	11.91	–	Pump

Turbidity at collection (NTU): (Less than 5 NTU is desired) Duplicate Collected Y / (N) Filtered Sample (Y) / N

Dissolved Metals Field filtered & preserved Y (N)

Stabilization Parameters		± 0.5 °C	± 1 ppm	± 10 umhos/com or within 3% if > 300 umhos/cm	± 10 mV	± 0.1 SU	Ideally <5 NTU	<0.3 feet drawdown is desired	
Volume Purged	**Time**	**Temperature**	**Dissolved Oxygen**	**Specific Conductivity**	**ORP**	**pH**	**Turbidity**	**DTW**	**Odor Y / N NOTES**
0.125	1222	18.4	8.05	114.1	51.2	6.75	26.22	9.55	N
0.25	1225	18.0	7.43	104.2	58.0	6.54	32.30	9.57	N
0.30	1228	17.8	7.40	97.2	61.6	6.46	51.07	9.55	N
0.35	1231	17.8	7.33	99.1	62.3	6.43	37.53	9.55	N
0.40	1234	17.7	7.38	92.9	62.7	6.40	19.61	9.57	N
0.45	1237	17.8	7.38	91.7	63.1	6.39	17.07	9.60	N
0.50	1240	17.7	7.31	92.5	63.1	6.38	13.95	9.61	N
0.55	1243	17.6	7.22	94.0	63.2	6.39	12.54	9.62	N
0.60	1246	17.6	7.16	94.6	63.2	6.39	13.16	9.62	N
0.65	1249	17.7	7.23	94.4	62.2	6.39	9.78	9.63	N

WELL CONDITION SUMMARY

Cover: (Y) / N	Bolts: (Y) / N	Concrete Pad Condition: Good / Fair / Needs Repair / Needs Replacement	Gripper: (Y) / N	Well Diameter (inches)
Type Of Cover: Center / Walerbox / Plate Steel	Type Of Bolts: 13mm		Gripper Condition: Good / Fair / Needs Repair / Needs Replacement	1/2" 1" 1.5" (2") 3" 4"
Malerial: Cast Iron / Aluminum / Steel	Pent / 7/16" / 1/2" / 9/16"	If Stickup, is Lock Present Y / N		

SAMPLE COLLECTION INFORMATION

Sample Time: 1252	Appearance	Filtered Sample Turbidity	Other

NOTES:

EQUIPMENT USED / CALIBRATION: YSI: \
I-Probe/WLI: #3
Turbidity: 2

Volume/Linear Feet of Well Casing: 1" = 0.041 gal 1.5" = 0.092 2" = 0.163 4" = 0.653 gal

LABORATORY INFORMATION

Analysis	Glassware	Preservative
Submitted to :	PACE / **PHOENIX** / NETL / EUROFINS / OTHER (SPECIFY)	

OTO

O'Reilly, Talbot & Okun Associates, Inc.
293 Bridge Street, Springfield, Massachusetts 01103
413-788-6222 OTO-ENV.COM

LOW-FLOW GROUNDWATER SAMPLING LOG

Client	Town of Deerfield - Senior Housing	**OTO Job No.**	3771-0-01
Location	85 North Main Street, South Deerfield, MA	**Date**	11/6/24
Personnel	JLH	**Weather**	Sun, clouds 65°F

WELL ID: DSH - 2
SAMPLING SEQUENCE NO: 3
SKETCH

Stickup Y/N	Distance from Rim to PVC	Total Depth of Well (Rim/PVC)	Depth to Product (Rim/PVC)	Depth to Groundwater (Rim/PVC)	Standing Water Column	Depth of Sample Tubing	TOV @ wellhead (ppmV)	Pump Peristaltic or Bladder
Distance ground to stickup Rim/PVC								
—	4.5	15.91	—	10.20	5.71	13.05	—	ppump

Turbidity at collection (NTU): (Less than 5 NTU is desired) | Duplicate Collected Y / N | Filtered Sample Y / N

Dissolved Metals Field filtered & preserved Y / N

Stabilization Parameters		± 0.5 °C	± 1 ppm	± 10 umhos/com or within 3% if > 300 umhos/cm	± 10 mV	± 0.1 SU	Ideally <5 NTU	<0.3 feet drawdown is desired	
Volume Purged	**Time**	**Temperature**	**Dissolved Oxygen**	**Specific Conductivity**	**ORP**	**pH**	**Turbidity**	**DTW**	**Odor Y / N NOTES**
0.125	1008	15.6	6.08	254.7	58.3	6.51	47.21	10.30	N
0.25	1011	15.5	5.22	237.9	62.0	6.32	40.10	10.35	N
0.30	1014	15.5	5.01	236.0	65.5	6.27	43.66	10.37	N
0.35	1017	15.5	4.98	235.6	67.6	6.23	44.14	10.35	N
0.40	1020	15.5	4.98	236.5	70.2	6.19	32.99	10.36	N
0.45	1023	15.5	5.00	237.2	71.0	6.17	31.10	10.35	N
0.50	1026	15.6	5.20	239.9	72.2	6.14	23.05	10.35	N
0.55	1029	15.5	4.55	244.0	73.5	6.12	20.33	10.35	N
0.60	1032	15.5	4.43	246.0	74.0	6.11	18.94	10.36	N
0.65	1035	15.5	4.95	241.3	74.3	6.10	14.96	10.37	N

WELL CONDITION SUMMARY

Cover: (Y) / N	Bolts: (Y) / N	Concrete Pad Condition: Good / Fair / Needs Repair / Needs Replacement	Gripper: (Y) / N	Well Diameter (inches)
Type Of Cover: Center / Waterbox / Plate Steel	Type Of Bolts: 13mm		Gripper Condition: Good / Fair / Needs Repair / Needs Replacement	1/2" 1" 1.5" (2") 3" 4"
Material: Cast Iron / Aluminum / (Steel)	Pent / 7/16" / 1/2" / 9/16"	If Stickup, is Lock Present Y (N)		

SAMPLE COLLECTION INFORMATION

Sample Time:	Appearance	Filtered Sample Turbidity	Other
1038	Clear	—	—

NOTES:

EQUIPMENT USED / CALIBRATION: YSI: 1
I-Probe/WLI: 3
Turbidity: 2

Volume/Linear Feet of Well Casing: 1" = 0.041 gal 1.5" = 0.092 2" = 0.163 4" = 0.653 gal

LABORATORY INFORMATION

Analysis	Glassware	Preservative
Submitted to :	PACE / **PHOENIX** / NETL / EUROFINS / OTHER (SPECIFY)	

OTO

O'Reilly, Talbot & Okun Associates, Inc.
293 Bridge Street, Springfield, Massachusetts 01103
413-788-6222 OTO-ENV.COM

LOW-FLOW GROUNDWATER SAMPLING LOG

WELL ID: DSH-3
SAMPLING SEQUENCE NO: 2054
SKETCH

Client Town of Deerfield - Senior Housing **OTO Job No.** 3771-0-01
Location 85 North Main Street, South Deerfield, MA **Date** 11/6/24
Personnel JLH **Weather** Clouds ~ 76°F

Stickup Y/N Distance ground to stickup Rim/PVC	Distance from Rim to PVC	Total Depth of Well (Rim/PVC)	Depth to Product (Rim/PVC)	Depth to Groundwater (Rim/PVC)	Standing Water Column	Depth of Sample Tubing	TOV @ wellhead (ppmV)	Pump Peristaltic or Bladder
	4.02	15.72	—	9.93	5.79	12 ft	—	PUMP

Turbidity at collection (NTU): 6.35 (Less than 5 NTU is desired) Duplicate Collected Y / (N) Filtered Sample (Y) / N
Dissolved Metals Field filtered & preserved Y / (N)

Stabilization Parameters		± 0.5 °C	± 1 ppm	± 10 umhos/cm or within 3% if > 300 umhos/cm	± 10 mV	± 0.1 SU	Ideally <5 NTU	<0.3 feet drawdown is desired	
Volume Purged	**Time**	**Temperature**	**Dissolved Oxygen**	**Specific Conductivity**	**ORP**	**pH**	**Turbidity**	**DTW**	**Odor Y / N NOTES**
0.125	1328	18.9	7.16	72.8	63.6	6.36	10.16	9.95	N
0.25	1331	17.0	7.05	53.4	55.9	6.05	10.75	9.97	N
0.30	1334	16.8	6.93	51.6	50.1	6.02	12.63	9.99	N
0.35	1337	16.7	7.13	53.5	47.1	6.03	10.83	10.00	N
0.40	1340	16.5	7.27	56.3	46.9	6.05	8.36	10.01	N
0.45	1343	16.2	7.44	62.7	48.9	6.06	8.04	9.99	N
0.50	1346	16.1	7.41	64.5	49.2	6.07	8.10	9.98	N
0.55	1349	15.9	7.50	70.7	50.8	6.07	11.81	9.99	N
0.60	1352	15.9	7.65	72.7	52.0	6.08	7.11	9.98	N
0.65	1355	15.9	7.85	75.0	53.1	6.08	6.35	9.99	N

WELL CONDITION SUMMARY

Cover: (Y) / N
Type Of Cover: Center / Waterbox / Plate Steel
Material: Cast Iron / Aluminum / Steel

Bolts: (Y) / N
Type Of Bolts: 13mm
Pent / 7/16" / 1/2" / 9/16"

Concrete Pad Condition: Good / Fair / Needs Repair / Needs Replacement
If Stickup, is Lock Present Y / N

Gripper: (Y) / N
Gripper Condition: Good / Fair / Needs Repair / Needs Replacement

Well Diameter (inches): 1/2" 1" 1.5" (2") 3" 4"

SAMPLE COLLECTION INFORMATION

Sample Time: 1357 Appearance: Clear Filtered Sample Turbidity: — Other: —

NOTES:

EQUIPMENT USED / CALIBRATION: YSI: I
I-Probe/WLI: 3
Turbidity: 2

Volume/Linear Feet of Well Casing: 1" = 0.041 gal 1.5" = 0.092 2" = 0.163 4" = 0.653 gal

LABORATORY INFORMATION

Analysis	Glassware	Preservative

Submitted to : PACE / PHOENIX / NETL / EUROFINS / OTHER (SPECIFY)

OTO

O'Reilly, Talbot & Okun Associates, Inc.
293 Bridge Street, Springfield, Massachusetts 01103
413-788-6222 OTO-ENV.COM

LOW-FLOW GROUNDWATER SAMPLING LOG

Client	Town of Deerfield - Senior Housing	**OTO Job No.**	3771-0-01
Location	85 North Main Street, South Deerfield, MA	**Date**	11/6/24
Personnel	JLH	**Weather**	Clouds - Sun 65°F

WELL ID: DSH-5
SAMPLING SEQUENCE NO: 4
SKETCH

Stickup Y/N	Distance from Rim to PVC	Total Depth of Well (Rim/PVC)	Depth to Product (Rim/PVC)	Depth to Groundwater (Rim/PVC)	Standing Water Column	Depth of Sample Tubing	TOV @ wellhead (ppmV)	Pump Peristaltic or Bladder
Distance ground to stickup Rim/PVC								
	1.50	15.99	—	10.60	5.39	13.30	—	ppump

Turbidity at collection (NTU): 5.91 (Less than 5 NTU is desired) Duplicate Collected Y / N Filtered Sample Y / N

Dissolved Metals Field filtered & preserved Y / N

Stabilization Parameters		± 0.5 °C	± 1 ppm	± 10 umhos/cm or within 3% if > 300 umhos/cm	± 10 mV	± 0.1 SU	Ideally <5 NTU	<0.3 feet drawdown is desired	
Volume Purged	Time	Temperature	Dissolved Oxygen	Specific Conductivity	ORP	pH	Turbidity	DTW	Odor Y / N NOTES
0.125	1115	16.3	5.90	1444	68.6	6.13	74.23	10.71	N
0.25	1118	16.2	6.04	117.7	69.8	6.08	78.75	10.74	N
0.30	1121	16.1	5.96	112.7	72.2	6.04	70.82	10.71	N
0.35	1124	16.2	5.61	110.9	73.5	6.03	31.53	10.72	N
0.40	1127	16.2	5.51	113.7	74.7	6.02	59.33	10.73	N
0.45	1130	16.4	5.45	119.0	75.5	6.03	44.59	10.72	N
0.50	1133	16.3	5.04	1306	76.6	6.02	44.92	10.73	N
0.55	1136	16.3	4.84	138.3	78.2	6.06	13.17	10.72	N
0.60	1139	16.3	4.88	140.2	77.7	6.06	10.11	10.72	N
0.65	1142	16.3	4.74	139.9	76.8	6.07	5.91	10.73	N

WELL CONDITION SUMMARY

Cover: Y / N	Bolts: Y / N	Concrete Pad Condition: Good / Fair / Needs Repair / Needs Replacement	Gripper: Y / N	Well Diameter (inches)
Type Of Cover: Center / Waterbox / Plate Steel	Type Of Bolts: 13mm		Gripper Condition: Good / Fair / Needs Repair / Needs Replacement	1/2" 1" 1.5"
Material: Cast Iron / Aluminum / Steel	Pent / 7/16" / 1/2" / 9/16"	If Stickup, is Lock Present Y / N		2" 3" 4"

SAMPLE COLLECTION INFORMATION

Sample Time:	Appearance	Filtered Sample Turbidity	Other
1145			

NOTES:

EQUIPMENT USED / CALIBRATION: YSI: 1
I-Probe/WLI: 3
Turbidity: 2

Volume/Linear Feet of Well Casing: 1" = 0.041 gal 1.5" = 0.092 2" = 0.163 4" = 0.653 gal

LABORATORY INFORMATION

Analysis	Glassware	Preservative
EPH	2 x 1L Amber	HCl

Submitted to: PACE / **PHOENIX** / NETL / EUROFINS / OTHER (SPECIFY)