



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

REPORT OF ANALYTICAL RESULTS

NETLAB Work Order Number: 1K12037
Client Project: 023-162 - Leicester

Report Date: 29-November-2021

Prepared for:

Cedwyn Morgan
Hydro Environmental Technologies
54 Nonset Path
Acton, MA 01720

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

The samples listed below were submitted to New England Testing Laboratory on 11/12/21. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. This report of analytical results pertains only to the sample(s) provided to us by the client which are indicated on the custody record. The case number for this sample submission is 1K12037. Custody records are included in this report.

Lab ID	Sample	Matrix	Date Sampled	Date Received
1K12037-01	Room 105	Air	11/11/2021	11/12/2021
1K12037-02	Room 106	Air	11/11/2021	11/12/2021
1K12037-03	Room 107	Air	11/11/2021	11/12/2021
1K12037-04	Room 108	Air	11/11/2021	11/12/2021
1K12037-05	Room 109	Air	11/11/2021	11/12/2021
1K12037-06	Room 205	Air	11/11/2021	11/12/2021
1K12037-07	Gym	Air	11/11/2021	11/12/2021
1K12037-08	Office	Air	11/11/2021	11/12/2021
1K12037-09	Library	Air	11/11/2021	11/12/2021
1K12037-10	Cafeteria	Air	11/11/2021	11/12/2021

Request for Analysis

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

Cafeteria (Lab Number: 1K12037-10)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Gym (Lab Number: 1K12037-07)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Library (Lab Number: 1K12037-09)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Office (Lab Number: 1K12037-08)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 105 (Lab Number: 1K12037-01)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 106 (Lab Number: 1K12037-02)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 107 (Lab Number: 1K12037-03)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 108 (Lab Number: 1K12037-04)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 109 (Lab Number: 1K12037-05)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Room 205 (Lab Number: 1K12037-06)

Analysis

Air-phase Petroleum Hydrocarbons

Method

MADEP APH

Method References

Method for the Determination of Air-Phase Petroleum Hydrocarbons, Rev. 1, Massachusetts Department of Environmental Protection, 2009

Case Narrative

CASE NARRATIVE:

Sample Receipt:

The samples were received in the appropriate containers. The chain of custody was adequately completed and corresponded to the samples submitted.

APH:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control samples were within method specified quality control criteria.

Sample Canister Summary:

Sample ID: Room 105
Canister ID 1693
Flow Controller ID <-28"Hg
Flow Controller RPD <20% Yes
Collection Time 7 Hours 54 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -27.5"Hg
Final Field Vacuum -6"Hg
Final Laboratory Vacuum -7.2"Hg

Sample ID: Room 106
Canister ID 2929
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 54 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28"Hg
Final Field Vacuum -3"Hg
Final Laboratory Vacuum -3.9"Hg

Sample ID: Room 107
Canister ID 0013
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 55 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -27"Hg
Final Field Vacuum -6"Hg
Final Laboratory Vacuum -6.7"Hg

Sample ID: Room 108

Canister ID 8729
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 56 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28"Hg
Final Field Vacuum 0"Hg
Final Laboratory Vacuum -0.3"Hg

Sample ID: Room 109

Canister ID 1710
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 55 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28"Hg
Final Field Vacuum -8"Hg
Final Laboratory Vacuum -9.4"Hg

Sample ID: Room 205

Canister ID 9162
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 51 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28"Hg
Final Field Vacuum -4"Hg
Final Laboratory Vacuum -5.0"Hg

Sample ID: Gym

Canister ID 1709
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 53 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -30"Hg
Final Field Vacuum -7"Hg
Final Laboratory Vacuum -5.2"Hg

Sample ID: Office

Canister ID 1691
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes
Collection Time 7 Hours 57 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28.5"Hg
Final Field Vacuum -6"Hg
Final Laboratory Vacuum -6.4"Hg

Sample ID: Library

Canister ID 0946
Flow Controller ID #6/ 8 Hours
Flow Controller RPD <20% Yes

Collection Time 7 Hours 53 Minutes
Initial Laboratory Vacuum <-28"Hg
Initial Field Vacuum -28.5"Hg
Final Field Vacuum -3"Hg
Final Laboratory Vacuum -4.0"Hg

Sample ID: Cafeteria

Canister ID 2340

Flow Controller ID #6/ 8 Hours

Flow Controller RPD <20% Yes

Collection Time 7 Hours 51 Minutes

Initial Laboratory Vacuum <-28"Hg

Initial Field Vacuum -29.5"Hg

Final Field Vacuum -6"Hg

Final Laboratory Vacuum -5.8"Hg

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other:
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 105		
	Lab ID	1K12037-01		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-27.5 in. Hg		
	Post-sample vacuum (field)	-6 in. Hg		
	Lab Receipt vacuum	-7.2 in. Hg		
Dilution Factor	1			
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	3.2	0.7
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	3.2	0.7
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	27	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	19	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: <input type="checkbox"/>
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 106		
	Lab ID	1K12037-02		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-28 in. Hg		
	Post-sample vacuum (field)	-3 in. Hg		
	Lab Receipt vacuum	-3.9 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m³	ppb v/v	ug/m³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	ND	ND
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	ND	ND
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	89	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	180	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: _____
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other _____
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other _____
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 107		
	Lab ID	1K12037-03		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-27 in. Hg		
	Post-sample vacuum (field)	-6 in. Hg		
	Lab Receipt vacuum	-6.7 in. Hg		
Dilution Factor	1			
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	3.1	0.7
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	3.1	0.7
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	60	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	75	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
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Signature: 
 Printed Name: Richard Warila

Position: Laboratory Director
 Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: <input type="checkbox"/>
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 108		
	Lab ID	1K12037-04		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-28 in. Hg		
	Post-sample vacuum (field)	0 in. Hg		
	Lab Receipt vacuum	-0.3 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	2.3	0.6
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	2.0	0.5
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	2.0	0.5
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	24	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	46	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: <input type="checkbox"/>
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 109		
	Lab ID	1K12037-05		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-28 in. Hg		
	Post-sample vacuum (field)	-8 in. Hg		
	Lab Receipt vacuum	-9.4 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	ND	ND
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	ND	ND
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	26	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	34	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input checked="" type="checkbox"/> Time-Integrated: 2 hour 4 hour <input checked="" type="checkbox"/> 8 hour 24 hour Other:
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L Other
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice Electronic Other
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Room 205		
	Lab ID	1K12037-06		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/23/21		
	Pre-sample vacuum (field)	-28 in. Hg		
	Post-sample vacuum (field)	-4 in. Hg		
	Lab Receipt vacuum	-5.0 in. Hg		
Dilution Factor	1			
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	ND	ND
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	ND	ND
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	25	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	ND	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: _____
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other _____
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other _____
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Gym		
	Lab ID	1K12037-07		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/24/21		
	Pre-sample vacuum (field)	-30 in. Hg		
	Post-sample vacuum (field)	-7 in. Hg		
	Lab Receipt vacuum	-5.2 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m³	ppb v/v	ug/m³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	3.3	0.9
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	2.8	0.6
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	2.8	0.6
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	25	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	17	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: _____
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other _____
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other _____
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Office		
	Lab ID	1K12037-08		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/24/21		
	Pre-sample vacuum (field)	-28.5 in. Hg		
	Post-sample vacuum (field)	-6 in. Hg		
	Lab Receipt vacuum	-6.4 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	2.9	0.8
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	2.2	0.5
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	2.2	0.5
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	19	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	16	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: <input type="checkbox"/>
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other <input type="checkbox"/>
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Library		
	Lab ID	1K12037-09		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/24/21		
	Pre-sample vacuum (field)	-28.5 in. Hg		
	Post-sample vacuum (field)	-3 in. Hg		
	Lab Receipt vacuum	-4.0 in. Hg		
	Dilution Factor	1		
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	ND	ND
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	ND	ND
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	ND	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	ND	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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.

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/21

SAMPLE INFORMATION

Sample Type	Grab <input type="checkbox"/> Time-Integrated: 2 hour <input type="checkbox"/> 4 hour <input checked="" type="checkbox"/> 8 hour <input type="checkbox"/> 24 hour <input type="checkbox"/> Other: _____
Sample Container	Canister(s) size: <input checked="" type="checkbox"/> 6L <input type="checkbox"/> Other _____
Sampling Flow Controller	Mechanical <input checked="" type="checkbox"/> Fixed-Orifice <input type="checkbox"/> Electronic <input type="checkbox"/> Other _____
Sampling Flow Meter	RPD of pre & post-sampling calibration check(s): <input checked="" type="checkbox"/> ≤ 20% <input type="checkbox"/> >20%


APH ANALYTICAL RESULTS

Internal Standards: Pentafluorobenzene 1,4 Difluorobenzene Chlorobenzene-d5 MS Tuning Standard: Bromofluorobenzene	Client ID	Cafeteria		
	Lab ID	1K12037-10		
	Date Collected	11/11/21		
	Date Received	11/12/21		
	Date Analyzed	11/24/21		
	Pre-sample vacuum (field)	-29.5 in. Hg		
	Post-sample vacuum (field)	-6 in. Hg		
	Lab Receipt vacuum	-5.8 in. Hg		
Dilution Factor	1			
Target APH Analytes & Hydrocarbon Ranges	Reporting Limit		Sample Results	
	ug/m ³	ppb v/v	ug/m ³	ppb v/v
1,3-Butadiene	2.0	0.9	ND	ND
Methyl t-butyl ether (MTBE)	2.0	0.6	ND	ND
Benzene	2.0	0.6	ND	ND
Toluene	2.0	0.5	ND	ND
Ethylbenzene	2.0	0.5	ND	ND
m&p-Xylene	2.0	0.5	ND	ND
o-Xylene	2.0	0.5	ND	ND
Total xylenes	2.0	0.5	ND	ND
Naphthalene	0.63	0.1	ND	ND
C5-C8 Aliphatic Hydrocarbons ^{1,2}	12.0	NA	27	NA
C9-C12 Aliphatic Hydrocarbons ^{1,3}	12.0	NA	17	NA
C9-C10 Aromatic Hydrocarbons	10.0	NA	ND	NA
1: Hydrocarbon range data from total ion chromatogram excluding any internal/tuning standards eluting in that range 2: C5-C8 aliphatic hydrocarbons exclude the concentration of Target APH Analytes eluting in that range 3: C9-C12 aliphatic hydrocarbons exclude concentration of Target APH Analytes eluting in that range AND concentration of C9-C10 aromatic hydrocarbons Abbreviations: ND=Not Detected, NA=Not applicable, NP=Not Provided				

CERTIFICATION

Were all QA/QC procedures REQUIRED by the APH Method followed? Yes No - Details Attached
 Were all performance/acceptance standards for required QA/QC procedures achieved? Yes No - Details Attached
 Were any significant modifications made to the APH method, as specified in Sect 11.1.2 No Yes - Details Attached

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.

Signature: 
 Printed Name: Richard Warila

Position: Laboratory Director
 Date: 11/29/21

Quality Control

Air-Phase Petroleum Hydrocarbons (MADEP-APH)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B1K1036 - MADEP-APH-Preparation										
Blank (B1K1036-BLK1)					Prepared & Analyzed: 11/23/21					
1,3-Butadiene	ND		0.9	ppb (v/v)						
Methyl t-butyl ether (MTBE)	ND		0.6	ppb (v/v)						
Benzene	ND		0.6	ppb (v/v)						
Toluene	ND		0.5	ppb (v/v)						
Ethylbenzene	ND		0.5	ppb (v/v)						
m&p-Xylene	ND		0.5	ppb (v/v)						
o-Xylene	ND		0.5	ppb (v/v)						
Total xylenes	ND		0.5	ppb (v/v)						
Naphthalene	ND		0.1	ppb (v/v)						
C5-C8 Aliphatic Hydrocarbons	ND		12.0	ppb (v/v)						
C9-C12 Aliphatic Hydrocarbons	ND		12.0	ppb (v/v)						
C9-C10 Aromatic Hydrocarbons	ND		10.0	ppb (v/v)						
LCS (B1K1036-BS1)										
					Prepared & Analyzed: 11/23/21					
1,3-Butadiene	10.0			ppb (v/v)	13.2		75.5	70-130		
Methyl t-butyl ether (MTBE)	11.3			ppb (v/v)	13.2		85.3	70-130		
Benzene	10.5			ppb (v/v)	13.2		79.8	70-130		
Toluene	11.5			ppb (v/v)	13.2		87.3	70-130		
Ethylbenzene	11.7			ppb (v/v)	13.2		88.6	70-130		
m&p-Xylene	23.4			ppb (v/v)	26.4		88.8	70-130		
o-Xylene	12.0			ppb (v/v)	13.2		91.1	70-130		
Naphthalene	10.7			ppb (v/v)	13.2		81.1	50-150		
Batch: B1K1120 - MADEP-APH-Preparation										
Blank (B1K1120-BLK1)					Prepared & Analyzed: 11/24/21					
1,3-Butadiene	ND		0.9	ppb (v/v)						
Methyl t-butyl ether (MTBE)	ND		0.6	ppb (v/v)						
Benzene	ND		0.6	ppb (v/v)						
Toluene	ND		0.5	ppb (v/v)						
Ethylbenzene	ND		0.5	ppb (v/v)						
m&p-Xylene	ND		0.5	ppb (v/v)						
o-Xylene	ND		0.5	ppb (v/v)						
Total xylenes	ND		0.5	ppb (v/v)						
Naphthalene	ND		0.1	ppb (v/v)						
C5-C8 Aliphatic Hydrocarbons	ND		12.0	ppb (v/v)						
C9-C12 Aliphatic Hydrocarbons	ND		12.0	ppb (v/v)						
C9-C10 Aromatic Hydrocarbons	ND		10.0	ppb (v/v)						

Quality Control
(Continued)

Air-Phase Petroleum Hydrocarbons (MADEP-APH) (Continued)

Analyte	Result	Qual	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: B1K1120 - MADEP-APH-Preparation (Continued)										
LCS (B1K1120-BS1)					Prepared & Analyzed: 11/24/21					
1,3-Butadiene	11.3			ppb (v/v)	13.2		85.8	70-130		
Methyl t-butyl ether (MTBE)	11.8			ppb (v/v)	13.2		89.4	70-130		
Benzene	11.4			ppb (v/v)	13.2		86.5	70-130		
Toluene	11.6			ppb (v/v)	13.2		88.0	70-130		
Ethylbenzene	11.8			ppb (v/v)	13.2		89.5	70-130		
m&p-Xylene	23.6			ppb (v/v)	26.4		89.6	70-130		
o-Xylene	12.1			ppb (v/v)	13.2		92.0	70-130		
Naphthalene	9.3			ppb (v/v)	13.2		70.4	50-150		

Notes and Definitions

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

Nov 11

Leicester Elementary Air Sampling Event Nov 11 2021						
Regulator ID	Canister Id	Location	Initial Vacuum	Time Open	Time Close	Final Vacuum
	41693 41690	Room 105	27.5	8:40 AM	4:34	6
	29291	Room 106	28	8:42 AM	4:36	3
	00131	Room 107	27	8:43 AM	4:38	6
	38729	Room 108	28	8:45 AM	4:41	0
	41710	Room 109	28	8:47 AM	4:42	0
	29162	Room 205	28	8:35 AM	4:26	4
	41709	Gym	greater than 30	8:39 AM	4:32	7
	41691	Office	28.5	8:37 AM	4:30	6
	0946	Library	28.5	8:32 AM	4:25	3
	32340	Cafeteria	29.5	8:33 AM	4:24	6

MassDEP Analytical Protocol Certification Form

Laboratory Name: New England Testing Laboratory, Inc.

Project #: 023-162

Project Location: Leicester, MA

RTN:

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
1K12037

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

CAM Protocol (check all that apply below):

8260 VOC CAM II A <input type="checkbox"/>	7470/7471 Hg CAM III B <input type="checkbox"/>	MassDEP VPH (GC/PID/FID) CAM IV A <input type="checkbox"/>	8082 PCB CAM V A <input type="checkbox"/>	9014 Total Cyanide/PAC CAM VI A <input type="checkbox"/>	6860 Perchlorate CAM VIII B <input type="checkbox"/>
8270 SVOC CAM II B <input type="checkbox"/>	7010 Metals CAM III C <input type="checkbox"/>	MassDEP VPH (GC/MS) CAM IV C <input type="checkbox"/>	8081 Pesticides CAM V B <input type="checkbox"/>	7196 Hex Cr CAM VI B <input type="checkbox"/>	MassDEP APH CAM IX A <input checked="" type="checkbox"/>
6010 Metals CAM III A <input type="checkbox"/>	6020 Metals CAM III D <input type="checkbox"/>	MassDEP EPH CAM IV B <input type="checkbox"/>	8151 Herbicides CAM V C <input type="checkbox"/>	8330 Explosives CAM VIII A <input type="checkbox"/>	TO-15 VOC CAM IX B <input type="checkbox"/>

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

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

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

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
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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?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No ¹

¹All negative responses must be addressed in an attached laboratory narrative.

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

Signature: 

Position: Laboratory Director

Printed Name: Richard Warila

Date: 11/29/2021