ANALYTICAL REPORT

Lab Number:	L2232418
Client:	Terracon Consultants, Inc. 19955 Highland Vista Drive Suite 170 Asburn, VA 20147
ATTN:	Katie Fordney
Phone:	(703) 726-8030
Project Name:	NEW LONDON NAVY BASE
Project Number:	JD195305A
Report Date:	07/14/22

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

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

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

APPENDIX C5

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A

Lab Number: L2232418
Report Date: 07/14/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2232418-01	MB-212	SOIL	GROTON, CT	06/16/22 10:00	06/17/22
L2232418-02	MB-216	SOIL	GROTON, CT	06/16/22 10:10	06/17/22

APPENDIX C5

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A

Lab Number: L2232418
Report Date: 07/14/22

CT DEP Reasonable Confidence Protocols
Laboratory Analysis
QA/QC Certification Form

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed (including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CT DEP method-specific Reasonable Confidence Protocol documents)?	YES
1a	Were the method specified preservation and holding time requirements met?	YES
1b	VPH & EPH Methods Only: Was the VPH or EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)?	N/A
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	YES
3	Were all samples received at an appropriate temperature (<6°C)?	YES
4	Were all QA/QC performance criteria specified in the CT DEP Reasonable Confidence Protocol documents achieved?	YES
5a	Were reporting limits specified or referenced on the chain-of-custody?	NO
5b	Were these reporting limits met?	N/A
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	NO
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	NO

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or question B is "No", the data package does not meet the requirements for "Reasonable Confidence".

Project Name:	NEW LONDON NAVY BASE	**Lab Number:**	L2232418
Project Number:	JD195305A	**Report Date:**	07/14/22

Case Narrative

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

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

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

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	NEW LONDON NAVY BASE	**Lab Number:**	L2232418
Project Number:	JD195305A	**Report Date:**	07/14/22

Case Narrative (continued)

Report Submission

July 14, 2022: This final report includes the results of all requested analyses.

July 01, 2022: This is a preliminary report.

RCP Related Narratives

Report Submission

In reference to question 5a:

Reporting limits were not specified.

Sample Receipt

L2232418-01: The collection date and time on the chain of custody was 16-JUN-22 10:10; however, the collection date/time on the container label was 16-JUN-22 10:00. At the client's request, the collection date/time is reported as 16-JUN-22 10:00.

Volatile Organics

L2232418-01 and -02: Initial calibration utilized a quadratic fit for: 1,1-dichloropropene, trichloroethene

TCLP Metals

In reference to question 6:

At the client's request, all submitted samples were not analyzed for the full RCP list of constituents identified in the method specific analyte list presented in the RCP documents.

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

Authorized Signature: Caitlin Walukevich

Caitlin Walukevich

Title: Technical Director/Representative

Date: 07/14/22

QC OUTLIER SUMMARY REPORT

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A

Lab Number: L2232418
Report Date: 07/14/22

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment

There are no QC Outliers associated with this report.

APPENDIX C5

ORGANICS

VOLATILES

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01
Client ID: MB-212
Sample Location: GROTON, CT

Date Collected: 06/16/22 10:00
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 79,8260C
Analytical Date: 06/29/22 13:32
Analyst: JC
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	4.5	--	1
1,1-Dichloroethane	ND		ug/kg	0.90	--	1
Chloroform	ND		ug/kg	1.4	--	1
Carbon tetrachloride	ND		ug/kg	0.90	--	1
1,2-Dichloropropane	ND		ug/kg	0.90	--	1
Dibromochloromethane	ND		ug/kg	0.90	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.90	--	1
Tetrachloroethene	ND		ug/kg	0.45	--	1
Chlorobenzene	ND		ug/kg	0.45	--	1
Trichlorofluoromethane	ND		ug/kg	3.6	--	1
1,2-Dichloroethane	ND		ug/kg	0.90	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.45	--	1
Bromodichloromethane	ND		ug/kg	0.45	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.90	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.45	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.45	--	1
1,1-Dichloropropene	ND		ug/kg	0.45	--	1
Bromoform	ND		ug/kg	3.6	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Benzene	1.5		ug/kg	0.45	--	1
Toluene	1.0		ug/kg	0.90	--	1
Ethylbenzene	ND		ug/kg	0.90	--	1
Chloromethane	ND		ug/kg	3.6	--	1
Bromomethane	ND		ug/kg	1.8	--	1
Vinyl chloride	ND		ug/kg	0.90	--	1
Chloroethane	ND		ug/kg	1.8	--	1
1,1-Dichloroethene	ND		ug/kg	0.90	--	1
trans-1,2-Dichloroethene	ND		ug/kg	1.4	--	1

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01 Date Collected: 06/16/22 10:00

Client ID: MB-212 Date Received: 06/17/22

Sample Location: GROTON, CT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.45	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.8	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.8	--	1
Methyl tert butyl ether	ND		ug/kg	1.8	--	1
p/m-Xylene	ND		ug/kg	1.8	--	1
o-Xylene	ND		ug/kg	0.90	--	1
Xylenes, Total	ND		ug/kg	0.90	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.90	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.90	--	1
Dibromomethane	ND		ug/kg	1.8	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.8	--	1
Styrene	ND		ug/kg	0.90	--	1
Dichlorodifluoromethane	ND		ug/kg	9.0	--	1
Acetone	ND		ug/kg	22	--	1
Carbon disulfide	ND		ug/kg	9.0	--	1
2-Butanone	ND		ug/kg	9.0	--	1
4-Methyl-2-pentanone	ND		ug/kg	9.0	--	1
2-Hexanone	ND		ug/kg	9.0	--	1
Acrylonitrile	ND		ug/kg	3.6	--	1
Tetrahydrofuran	ND		ug/kg	3.6	--	1
2,2-Dichloropropane	ND		ug/kg	1.8	--	1
1,2-Dibromoethane	ND		ug/kg	0.90	--	1
1,3-Dichloropropane	ND		ug/kg	1.8	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.45	--	1
Bromobenzene	ND		ug/kg	1.8	--	1
n-Butylbenzene	ND		ug/kg	0.90	--	1
sec-Butylbenzene	ND		ug/kg	0.90	--	1
tert-Butylbenzene	ND		ug/kg	1.8	--	1
o-Chlorotoluene	ND		ug/kg	1.8	--	1
p-Chlorotoluene	ND		ug/kg	1.8	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	2.7	--	1
Hexachlorobutadiene	ND		ug/kg	3.6	--	1
Isopropylbenzene	ND		ug/kg	0.90	--	1
p-Isopropyltoluene	ND		ug/kg	0.90	--	1
Naphthalene	ND		ug/kg	3.6	--	1
n-Propylbenzene	ND		ug/kg	0.90	--	1

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01 Date Collected: 06/16/22 10:00

Client ID: MB-212 Date Received: 06/17/22

Sample Location: GROTON, CT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.8	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.8	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.8	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	4.5	--	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	3.6	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	108		70-130
Dibromofluoromethane	98		70-130

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02
Client ID: MB-216
Sample Location: GROTON, CT

Date Collected: 06/16/22 10:10
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 79,8260C
Analytical Date: 06/29/22 13:59
Analyst: JC
Percent Solids: 93%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Methylene chloride	ND		ug/kg	2.8	--	1
1,1-Dichloroethane	ND		ug/kg	0.56	--	1
Chloroform	ND		ug/kg	0.84	--	1
Carbon tetrachloride	ND		ug/kg	0.56	--	1
1,2-Dichloropropane	ND		ug/kg	0.56	--	1
Dibromochloromethane	ND		ug/kg	0.56	--	1
1,1,2-Trichloroethane	ND		ug/kg	0.56	--	1
Tetrachloroethene	ND		ug/kg	0.28	--	1
Chlorobenzene	ND		ug/kg	0.28	--	1
Trichlorofluoromethane	ND		ug/kg	2.2	--	1
1,2-Dichloroethane	ND		ug/kg	0.56	--	1
1,1,1-Trichloroethane	ND		ug/kg	0.28	--	1
Bromodichloromethane	ND		ug/kg	0.28	--	1
trans-1,3-Dichloropropene	ND		ug/kg	0.56	--	1
cis-1,3-Dichloropropene	ND		ug/kg	0.28	--	1
1,3-Dichloropropene, Total	ND		ug/kg	0.28	--	1
1,1-Dichloropropene	ND		ug/kg	0.28	--	1
Bromoform	ND		ug/kg	2.2	--	1
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.28	--	1
Benzene	ND		ug/kg	0.28	--	1
Toluene	ND		ug/kg	0.56	--	1
Ethylbenzene	ND		ug/kg	0.56	--	1
Chloromethane	ND		ug/kg	2.2	--	1
Bromomethane	ND		ug/kg	1.1	--	1
Vinyl chloride	ND		ug/kg	0.56	--	1
Chloroethane	ND		ug/kg	1.1	--	1
1,1-Dichloroethene	ND		ug/kg	0.56	--	1
trans-1,2-Dichloroethene	ND		ug/kg	0.84	--	1

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02 Date Collected: 06/16/22 10:10

Client ID: MB-216 Date Received: 06/17/22

Sample Location: GROTON, CT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
Trichloroethene	ND		ug/kg	0.28	--	1
1,2-Dichlorobenzene	ND		ug/kg	1.1	--	1
1,3-Dichlorobenzene	ND		ug/kg	1.1	--	1
1,4-Dichlorobenzene	ND		ug/kg	1.1	--	1
Methyl tert butyl ether	ND		ug/kg	1.1	--	1
p/m-Xylene	ND		ug/kg	1.1	--	1
o-Xylene	ND		ug/kg	0.56	--	1
Xylenes, Total	ND		ug/kg	0.56	--	1
cis-1,2-Dichloroethene	ND		ug/kg	0.56	--	1
1,2-Dichloroethene, Total	ND		ug/kg	0.56	--	1
Dibromomethane	ND		ug/kg	1.1	--	1
1,2,3-Trichloropropane	ND		ug/kg	1.1	--	1
Styrene	ND		ug/kg	0.56	--	1
Dichlorodifluoromethane	ND		ug/kg	5.6	--	1
Acetone	18		ug/kg	14	--	1
Carbon disulfide	ND		ug/kg	5.6	--	1
2-Butanone	ND		ug/kg	5.6	--	1
4-Methyl-2-pentanone	ND		ug/kg	5.6	--	1
2-Hexanone	ND		ug/kg	5.6	--	1
Acrylonitrile	ND		ug/kg	2.2	--	1
Tetrahydrofuran	ND		ug/kg	2.2	--	1
2,2-Dichloropropane	ND		ug/kg	1.1	--	1
1,2-Dibromoethane	ND		ug/kg	0.56	--	1
1,3-Dichloropropane	ND		ug/kg	1.1	--	1
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.28	--	1
Bromobenzene	ND		ug/kg	1.1	--	1
n-Butylbenzene	ND		ug/kg	0.56	--	1
sec-Butylbenzene	ND		ug/kg	0.56	--	1
tert-Butylbenzene	ND		ug/kg	1.1	--	1
o-Chlorotoluene	ND		ug/kg	1.1	--	1
p-Chlorotoluene	ND		ug/kg	1.1	--	1
1,2-Dibromo-3-chloropropane	ND		ug/kg	1.7	--	1
Hexachlorobutadiene	ND		ug/kg	2.2	--	1
Isopropylbenzene	ND		ug/kg	0.56	--	1
p-Isopropyltoluene	ND		ug/kg	0.56	--	1
Naphthalene	6.3		ug/kg	2.2	--	1
n-Propylbenzene	ND		ug/kg	0.56	--	1

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02 Date Collected: 06/16/22 10:10

Client ID: MB-216 Date Received: 06/17/22

Sample Location: GROTON, CT Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/kg	1.1	--	1
1,2,4-Trichlorobenzene	ND		ug/kg	1.1	--	1
1,3,5-Trimethylbenzene	ND		ug/kg	1.1	--	1
1,2,4-Trimethylbenzene	ND		ug/kg	1.1	--	1
trans-1,4-Dichloro-2-butene	ND		ug/kg	2.8	--	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	2.2	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	104		70-130
4-Bromofluorobenzene	111		70-130
Dibromofluoromethane	100		70-130

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 79,8260C
Analytical Date: 06/29/22 09:01
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1657430-5					
Methylene chloride	ND		ug/kg	5.0	--
1,1-Dichloroethane	ND		ug/kg	1.0	--
Chloroform	ND		ug/kg	1.5	--
Carbon tetrachloride	ND		ug/kg	1.0	--
1,2-Dichloropropane	ND		ug/kg	1.0	--
Dibromochloromethane	ND		ug/kg	1.0	--
1,1,2-Trichloroethane	ND		ug/kg	1.0	--
Tetrachloroethene	ND		ug/kg	0.50	--
Chlorobenzene	ND		ug/kg	0.50	--
Trichlorofluoromethane	ND		ug/kg	4.0	--
1,2-Dichloroethane	ND		ug/kg	1.0	--
1,1,1-Trichloroethane	ND		ug/kg	0.50	--
Bromodichloromethane	ND		ug/kg	0.50	--
trans-1,3-Dichloropropene	ND		ug/kg	1.0	--
cis-1,3-Dichloropropene	ND		ug/kg	0.50	--
1,3-Dichloropropene, Total	ND		ug/kg	0.50	--
1,1-Dichloropropene	ND		ug/kg	0.50	--
Bromoform	ND		ug/kg	4.0	--
1,1,2,2-Tetrachloroethane	ND		ug/kg	0.50	--
Benzene	ND		ug/kg	0.50	--
Toluene	ND		ug/kg	1.0	--
Ethylbenzene	ND		ug/kg	1.0	--
Chloromethane	ND		ug/kg	4.0	--
Bromomethane	ND		ug/kg	2.0	--
Vinyl chloride	ND		ug/kg	1.0	--
Chloroethane	ND		ug/kg	2.0	--
1,1-Dichloroethene	ND		ug/kg	1.0	--
trans-1,2-Dichloroethene	ND		ug/kg	1.5	--
Trichloroethene	ND		ug/kg	0.50	--

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 79,8260C
Analytical Date: 06/29/22 09:01
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1657430-5					
1,2-Dichlorobenzene	ND		ug/kg	2.0	--
1,3-Dichlorobenzene	ND		ug/kg	2.0	--
1,4-Dichlorobenzene	ND		ug/kg	2.0	--
Methyl tert butyl ether	ND		ug/kg	2.0	--
p/m-Xylene	ND		ug/kg	2.0	--
o-Xylene	ND		ug/kg	1.0	--
Xylenes, Total	ND		ug/kg	1.0	--
cis-1,2-Dichloroethene	ND		ug/kg	1.0	--
1,2-Dichloroethene, Total	ND		ug/kg	1.0	--
Dibromomethane	ND		ug/kg	2.0	--
1,2,3-Trichloropropane	ND		ug/kg	2.0	--
Styrene	ND		ug/kg	1.0	--
Dichlorodifluoromethane	ND		ug/kg	10	--
Acetone	ND		ug/kg	25	--
Carbon disulfide	ND		ug/kg	10	--
2-Butanone	ND		ug/kg	10	--
4-Methyl-2-pentanone	ND		ug/kg	10	--
2-Hexanone	ND		ug/kg	10	--
Acrylonitrile	ND		ug/kg	4.0	--
Tetrahydrofuran	ND		ug/kg	4.0	--
2,2-Dichloropropane	ND		ug/kg	2.0	--
1,2-Dibromoethane	ND		ug/kg	1.0	--
1,3-Dichloropropane	ND		ug/kg	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/kg	0.50	--
Bromobenzene	ND		ug/kg	2.0	--
n-Butylbenzene	ND		ug/kg	1.0	--
sec-Butylbenzene	ND		ug/kg	1.0	--
tert-Butylbenzene	ND		ug/kg	2.0	--
o-Chlorotoluene	ND		ug/kg	2.0	--

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A
Lab Number: L2232418
Report Date: 07/14/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 79,8260C
Analytical Date: 06/29/22 09:01
Analyst: NLK

Parameter	Result	Qualifier	Units	RL	MDL
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1657430-5					
p-Chlorotoluene	ND		ug/kg	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/kg	3.0	--
Hexachlorobutadiene	ND		ug/kg	4.0	--
Isopropylbenzene	ND		ug/kg	1.0	--
p-Isopropyltoluene	ND		ug/kg	1.0	--
Naphthalene	ND		ug/kg	4.0	--
n-Propylbenzene	ND		ug/kg	1.0	--
1,2,3-Trichlorobenzene	ND		ug/kg	2.0	--
1,2,4-Trichlorobenzene	ND		ug/kg	2.0	--
1,3,5-Trimethylbenzene	ND		ug/kg	2.0	--
1,2,4-Trimethylbenzene	ND		ug/kg	2.0	--
trans-1,4-Dichloro-2-butene	ND		ug/kg	5.0	--
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		ug/kg	4.0	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Toluene-d8	103		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	97		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1657430-3 WG1657430-4								
Methylene chloride	108		110		70-130	2		30
1,1-Dichloroethane	102		101		70-130	1		30
Chloroform	98		96		70-130	2		30
Carbon tetrachloride	97		95		70-130	2		30
1,2-Dichloropropane	100		98		70-130	2		30
Dibromochloromethane	99		96		70-130	3		30
1,1,2-Trichloroethane	98		97		70-130	1		30
Tetrachloroethene	100		96		70-130	4		30
Chlorobenzene	101		98		70-130	3		30
Trichlorofluoromethane	110		105		70-130	5		30
1,2-Dichloroethane	99		99		70-130	0		30
1,1,1-Trichloroethane	98		96		70-130	2		30
Bromodichloromethane	99		97		70-130	2		30
trans-1,3-Dichloropropene	101		100		70-130	1		30
cis-1,3-Dichloropropene	100		99		70-130	1		30
1,1-Dichloropropene	104		103		70-130	1		30
Bromoform	87		88		70-130	1		30
1,1,2,2-Tetrachloroethane	84		80		70-130	5		30
Benzene	102		100		70-130	2		30
Toluene	102		99		70-130	3		30
Ethylbenzene	106		102		70-130	4		30
Chloromethane	101		98		52-130	3		30
Bromomethane	117		111		57-147	5		30

APPENDIX C5

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1657430-3 WG1657430-4								
Vinyl chloride	111		103		70-130	7		30
Chloroethane	100		95		70-130	5		30
1,1-Dichloroethene	96		94		70-130	2		30
trans-1,2-Dichloroethene	103		100		70-130	3		30
Trichloroethene	113		114		70-130	1		30
1,2-Dichlorobenzene	97		96		70-130	1		30
1,3-Dichlorobenzene	100		99		70-130	1		30
1,4-Dichlorobenzene	99		98		70-130	1		30
Methyl tert butyl ether	96		96		70-130	0		30
p/m-Xylene	107		103		70-130	4		30
o-Xylene	104		100		70-130	4		30
cis-1,2-Dichloroethene	97		96		70-130	1		30
Dibromomethane	95		95		70-130	0		30
1,2,3-Trichloropropane	95		96		70-130	1		30
Styrene	103		100		70-130	3		30
Dichlorodifluoromethane	111		108		30-146	3		30
Acetone	98		98		54-140	0		30
Carbon disulfide	104		101		59-130	3		30
2-Butanone	94		95		70-130	1		30
4-Methyl-2-pentanone	98		99		70-130	1		30
2-Hexanone	98		97		70-130	1		30
Acrylonitrile	99		102		70-130	3		30
Tetrahydrofuran	114		118		70-130	3		30

APPENDIX C5

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1657430-3 WG1657430-4								
2,2-Dichloropropane	112		108		70-130	4		30
1,2-Dibromoethane	99		98		70-130	1		30
1,3-Dichloropropane	100		98		70-130	2		30
1,1,1,2-Tetrachloroethane	100		98		70-130	2		30
Bromobenzene	95		94		70-130	1		30
n-Butylbenzene	115		113		70-130	2		30
sec-Butylbenzene	113		111		70-130	2		30
tert-Butylbenzene	108		106		70-130	2		30
o-Chlorotoluene	104		104		70-130	0		30
p-Chlorotoluene	103		102		70-130	1		30
1,2-Dibromo-3-chloropropane	94		96		68-130	2		30
Hexachlorobutadiene	106		103		70-130	3		30
Isopropylbenzene	107		105		70-130	2		30
p-Isopropyltoluene	110		108		70-130	2		30
Naphthalene	99		99		70-130	0		30
n-Propylbenzene	109		106		70-130	3		30
1,2,3-Trichlorobenzene	101		99		70-130	2		30
1,2,4-Trichlorobenzene	103		100		70-130	3		30
1,3,5-Trimethylbenzene	105		104		70-130	1		30
1,2,4-Trimethylbenzene	104		102		70-130	2		30
trans-1,4-Dichloro-2-butene	103		105		70-130	2		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	102		99		70-130	3		30

APPENDIX C5

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
CT RCP Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1657430-3 WG1657430-4								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		102		70-130
Toluene-d8	102		101		70-130
4-Bromofluorobenzene	100		102		70-130
Dibromofluoromethane	101		101		70-130

APPENDIX C5

PETROLEUM HYDROCARBONS

Project Name: NEW LONDON NAVY BASE
Lab Number: L2232418
Project Number: JD195305A
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01
Client ID: MB-212
Sample Location: GROTON, CT

Date Collected: 06/16/22 10:00
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 06/24/22 18:58
Analyst: BAD
Percent Solids: 87%

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	ND		ug/kg	4300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	103		70-130
4-Bromofluorobenzene	95		70-130

Project Name: NEW LONDON NAVY BASE
Lab Number: L2232418
Project Number: JD195305A
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02
Client ID: MB-216
Sample Location: GROTON, CT

Date Collected: 06/16/22 10:10
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Analytical Method: 1,8015D(M)
Analytical Date: 06/24/22 19:29
Analyst: BAD
Percent Solids: 93%

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Gasoline Range Organics - Westborough Lab						
Gasoline Range Organics	ND		ug/kg	4300	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	102		70-130
4-Bromofluorobenzene	91		70-130

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A
Lab Number: L2232418
Report Date: 07/14/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8015D(M)
Analytical Date: 06/24/22 10:50
Analyst: BAD

Parameter	Result	Qualifier	Units	RL	MDL
Gasoline Range Organics - Westborough Lab for sample(s): 01-02 Batch: WG1655338-4					
Gasoline Range Organics	ND		ug/kg	2500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,1,1-Trifluorotoluene	110		70-130
4-Bromofluorobenzene	98		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Gasoline Range Organics - Westborough Lab	Associated sample(s): 01-02		Batch: WG1655338-2		WG1655338-3			
Gasoline Range Organics	102		101		80-120	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,1,1-Trifluorotoluene	103		107		70-130
4-Bromofluorobenzene	90		94		70-130

APPENDIX C5

METALS

Project Name: NEW LONDON NAVY BASE
Lab Number: L2232418
Project Number: JD195305A
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01
Client ID: MB-212
Sample Location: GROTON, CT
Date Collected: 06/16/22 10:00
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 87%
TCLP/SPLP Ext. Date: 06/21/22 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Arsenic, TCLP	ND		mg/l	1.00	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Barium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Chromium, TCLP	ND		mg/l	0.200	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Lead, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Mercury, TCLP	ND		mg/l	0.0010	--	1	06/23/22 15:47	06/26/22 12:15	EPA 7470A	1,7470A	AW
Selenium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB
Silver, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:23	EPA 3015	1,6010D	NB

Project Name: NEW LONDON NAVY BASE
Lab Number: L2232418
Project Number: JD195305A
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02
Client ID: MB-216
Sample Location: GROTON, CT
Date Collected: 06/16/22 10:10
Date Received: 06/17/22
Field Prep: Not Specified

Sample Depth:
Matrix: Soil
Percent Solids: 93%
TCLP/SPLP Ext. Date: 06/21/22 07:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab											
Arsenic, TCLP	ND		mg/l	1.00	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Barium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Chromium, TCLP	ND		mg/l	0.200	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Lead, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Mercury, TCLP	ND		mg/l	0.0010	--	1	06/23/22 15:47	06/26/22 12:19	EPA 7470A	1,7470A	AW
Selenium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB
Silver, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:19	EPA 3015	1,6010D	NB

Project Name: NEW LONDON NAVY BASE **Lab Number:** L2232418

Project Number: JD195305A **Report Date:** 07/14/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-02 Batch: WG1654544-1										
Mercury, TCLP	ND		mg/l	0.0010	--	1	06/23/22 15:47	06/26/22 11:25	1,7470A	AW

Prep Information

Digestion Method: EPA 7470A

TCLP/SPLP Extraction Date: 06/19/22 08:35

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
TCLP Metals by EPA 1311 - Mansfield Lab for sample(s): 01-02 Batch: WG1659702-1										
Arsenic, TCLP	ND		mg/l	1.00	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Barium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Cadmium, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Chromium, TCLP	ND		mg/l	0.200	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Lead, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Selenium, TCLP	ND		mg/l	0.500	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB
Silver, TCLP	ND		mg/l	0.100	--	1	07/07/22 09:13	07/14/22 00:05	1,6010D	NB

Prep Information

Digestion Method: EPA 3015

TCLP/SPLP Extraction Date: 06/21/22 16:38

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1654544-2								
Mercury, TCLP	93		-		80-120	-		
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 Batch: WG1659702-2								
Arsenic, TCLP	108		-		75-125	-		20
Barium, TCLP	94		-		75-125	-		20
Cadmium, TCLP	100		-		75-125	-		20
Chromium, TCLP	94		-		75-125	-		20
Lead, TCLP	94		-		75-125	-		20
Selenium, TCLP	111		-		75-125	-		20
Silver, TCLP	95		-		75-125	-		20

APPENDIX C5

Matrix Spike Analysis
Batch Quality Control

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A

Lab Number: L2232418
Report Date: 07/14/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1659702-3 QC Sample: L2232418-01 Client ID: MB-212												
Arsenic, TCLP	ND	1.2	1.28	107		-	-		75-125	-		20
Barium, TCLP	ND	20	18.7	94		-	-		75-125	-		20
Cadmium, TCLP	ND	0.53	0.528	100		-	-		75-125	-		20
Chromium, TCLP	ND	2	1.90	95		-	-		75-125	-		20
Lead, TCLP	ND	5.3	4.98	94		-	-		75-125	-		20
Selenium, TCLP	ND	1.2	1.33	111		-	-		75-125	-		20
Silver, TCLP	ND	0.5	0.468	94		-	-		75-125	-		20

APPENDIX C5

Lab Duplicate Analysis

Batch Quality Control

Project Name: NEW LONDON NAVY BASE

Project Number: JD195305A

Lab Number: L2232418

Report Date: 07/14/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
TCLP Metals by EPA 1311 - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1659702-4 QC Sample: L2232418-01 Client ID: MB-212						
Arsenic, TCLP	ND	ND	mg/l	NC		20
Barium, TCLP	ND	ND	mg/l	NC		20
Cadmium, TCLP	ND	ND	mg/l	NC		20
Chromium, TCLP	ND	ND	mg/l	NC		20
Lead, TCLP	ND	ND	mg/l	NC		20
Selenium, TCLP	ND	ND	mg/l	NC		20
Silver, TCLP	ND	ND	mg/l	NC		20

APPENDIX C5

INORGANICS
&
MISCELLANEOUS

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A
Lab Number: L2232418
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-01
Client ID: MB-212
Sample Location: GROTON, CT
Sample Depth:
Matrix: Soil

Date Collected: 06/16/22 10:00
Date Received: 06/17/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	87.2		%	0.100	NA	1	-	06/18/22 08:32	121,2540G	RI

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A
Lab Number: L2232418
Report Date: 07/14/22

SAMPLE RESULTS

Lab ID: L2232418-02
Client ID: MB-216
Sample Location: GROTON, CT
Sample Depth:
Matrix: Soil
Date Collected: 06/16/22 10:10
Date Received: 06/17/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	92.6		%	0.100	NA	1	-	06/18/22 08:32	121,2540G	RI

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A

Lab Number: L2232418
Report Date: 07/14/22

Sample Receipt and Container Information

Were project specific reporting limits specified? NO

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2232418-01A	Vial MeOH preserved	A	NA		3.2	Y	Absent		TPH-GRO(14),CT-8260HLW(14)
L2232418-01B	Vial MeOH preserved	A	NA		3.2	Y	Absent		TPH-GRO(14),CT-8260HLW(14)
L2232418-01C	Vial water preserved	A	NA		3.2	Y	Absent	18-JUN-22 01:50	CT-8260HLW(14)
L2232418-01D	Vial water preserved	A	NA		3.2	Y	Absent	18-JUN-22 01:50	CT-8260HLW(14)
L2232418-01E	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2232418-01F	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		-
L2232418-01X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.2	Y	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG-C(28),PB-CI(180),CR-CI(180),SE-CI(180),AG-CI(180)
L2232418-01X9	Tumble Vessel	A	NA		3.2	Y	Absent		-
L2232418-02A	Vial MeOH preserved	A	NA		3.2	Y	Absent		TPH-GRO(14),CT-8260HLW(14)
L2232418-02B	Vial MeOH preserved	A	NA		3.2	Y	Absent		TPH-GRO(14),CT-8260HLW(14)
L2232418-02C	Vial water preserved	A	NA		3.2	Y	Absent	18-JUN-22 01:50	CT-8260HLW(14)
L2232418-02D	Vial water preserved	A	NA		3.2	Y	Absent	18-JUN-22 01:50	CT-8260HLW(14)
L2232418-02E	Plastic 120ml unpreserved	A	NA		3.2	Y	Absent		TS(7)
L2232418-02F	Glass 250ml/8oz unpreserved	A	NA		3.2	Y	Absent		-
L2232418-02X	Plastic 120ml HNO3 preserved Extracts	A	NA		3.2	Y	Absent		CD-CI(180),AS-CI(180),BA-CI(180),HG-C(28),PB-CI(180),SE-CI(180),CR-CI(180),AG-CI(180)
L2232418-02X9	Tumble Vessel	A	NA		3.2	Y	Absent		-

APPENDIX C5

*Values in parentheses indicate holding time in days

Project Name:	NEW LONDON NAVY BASE	**Lab Number:**	L2232418
Project Number:	JD195305A	**Report Date:**	07/14/22

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	NEW LONDON NAVY BASE	**Lab Number:**	L2232418
Project Number:	JD195305A	**Report Date:**	07/14/22

Footnotes

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

Terms

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

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

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

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

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

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

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

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

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	NEW LONDON NAVY BASE	**Lab Number:**	L2232418
Project Number:	JD195305A	**Report Date:**	07/14/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name: NEW LONDON NAVY BASE
Project Number: JD195305A
Lab Number: L2232418
Report Date: 07/14/22

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

79 Connecticut DEP Quality Assurance and Quality Control Requirements for SW-846 Methods. CTDEP Reasonable Confidence Protocols (RCPs). Versions 2.0 and 3.0, July and December 2006.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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

Certification Information

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

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

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