BLUE HILL HARBOR
MAINE
NAVIGATION IMPROVEMENT PROJECT

APPENDIX F

SEDIMENT SAMPLING AND TESTING

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SEDIMENT SAMPLING AND TESTING

IN SUPPORT OF DREDGED MATERIAL

SUITABILITY DETERMINATION

BLUE HILL HARBOR
NAVIGATION IMPROVEMENT PROJECT

BLUE HILL, MAINE

January, 2016

Prepared by:

Engineering/Planning Division
Environmental Resources Section
U.S. Army Corps of Engineers
New England District
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1.0 INTRODUCTION

Blue Hill Harbor is the principal commercial fishing harbor of the Town of Blue Hill, located on the western shore of Blue Hill Bay in Hancock County, Maine. The harbor is located in the northwest end of Blue Hill Bay west-northwest of Long Island. The inner harbor contains the Town Wharf and docks which are dry at mean low water.

The Town of Blue Hill, as part of its waterfront economic plan, requested that the New England District (NAE) of the U.S. Army Corps of Engineers (USACE) investigate the potential of establishing a federal channel and turning basin to allow full time vessel traffic to the inner harbor. The results of this study determined that a 1 acre turning basin and a 60 to 80 foot wide waterfront channel extending from the central Town Wharf approximately 2,500 feet southeast into deep water would be required to meet the project objectives. Both the turning basin/anchorage and channel would be dredged to a depth of 6 feet at mean lower low water (MLLW) plus 1 foot of allowable over depth. This would produce approximately 62,500 cubic yards of mixed gravel, sand, and silt. It is expected that this material would be mechanically dredged and placed at either the Tupper Ledge Disposal Site (TLDS) or Eastern Passage Disposal Site (EPDS).

The purpose of the sampling effort described in this report was to collect sediment cores from 7 locations within the proposed dredge area in order to evaluate suitable disposal options. The sampling effort was conducted in accordance with the sampling and analysis plan (SAP) (Appendix A) dated October 23, 2015 that was developed by the Environmental Resources Section (ERS) of NAE, and coordinated with Maine Department of Environmental Protection (ME DEP), the National Marine Fisheries Service (NMFS), and the United States Environmental Protection Agency (EPA) Region 1. This report describes the field methods employed, site conditions encountered, and results of physical and chemical analysis.

2.0 MATERIALS AND METHODS

Sediment sampling efforts were conducted on October 28, 2015. Work was carried out onboard the R/V Gloria H., a 24 foot pontoon style workboat outfitted with an a-frame and electric winch for sampling through a moon pool located in the center of the vessel. A three point anchor system was used to hold the boat in position while sampling. Positioning was achieved using a WAAS enabled Simrad NSS7 sonar/chart plotter with external LGC-4000 GPS receiver antenna, and verified with a Trimble GeoXM Differential Global Positioning System (DGPS), both with an accuracy of 3 meters or less. Depth measurements were made using the Simrad unit and 50/200 kHz transducer with lead line verification. Tidal corrections to Mean Lower Low Water (MLLW) were made using data for the Blue Hill Harbor tide station, accessed in the field through the tides and currents feature of Navionics Mobile software.

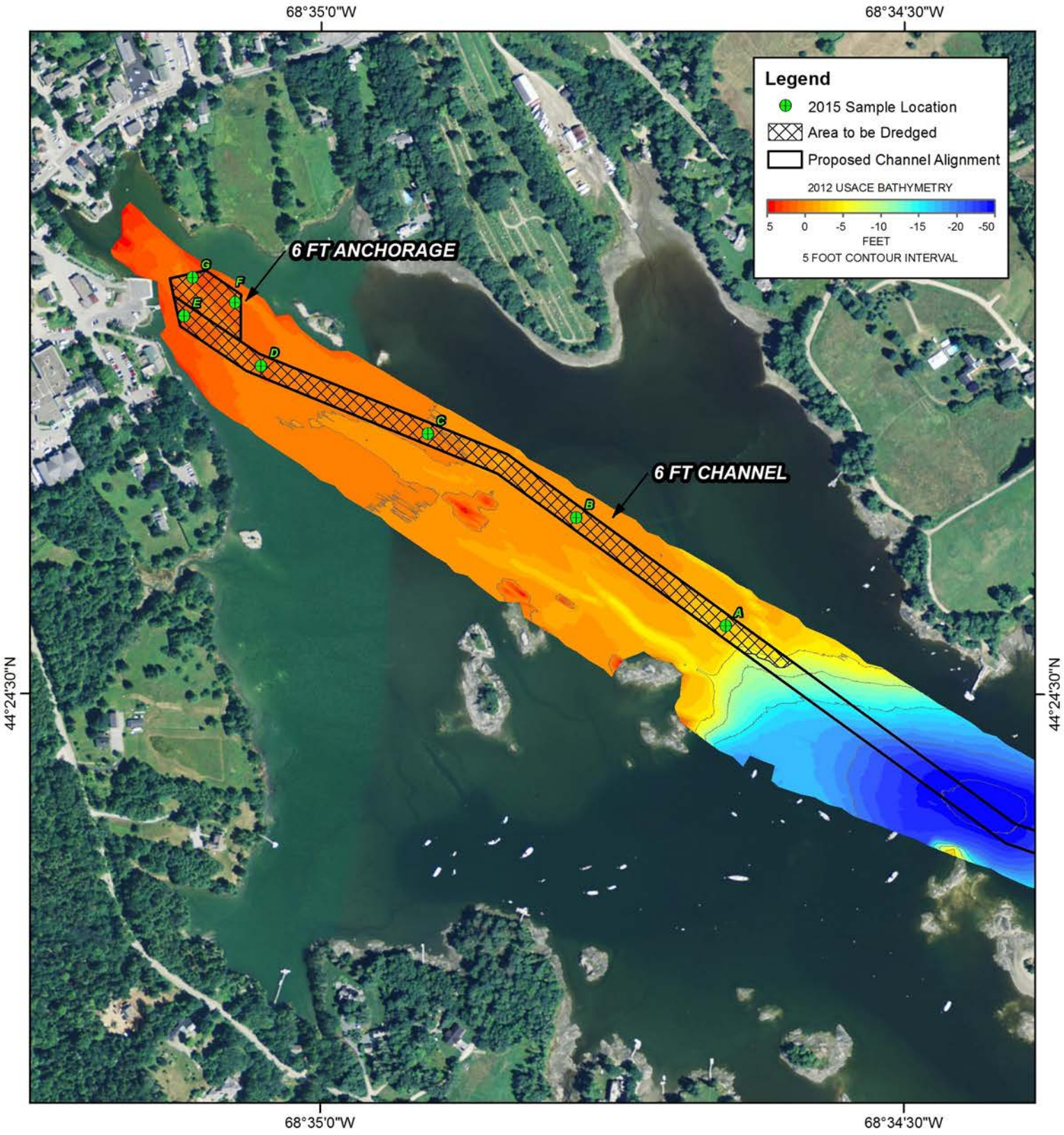
2.1 Sample Collections

Sediment cores were collected to project depth (proposed depth plus one foot of overdepth) or refusal from all 7 sample stations (Figure 1) using a Navco pneumatic vibracorer and 2.75" i.d. polycarbonate tubing. Upon collection the cores were secured in an upright position until transport to the onshore staging area for processing. Sampling equipment was cleaned with a brush and alconox solution then rinsed with site water prior to sampling and between each sample station. The core liners were assumed to be clean as-received from the supplier but were rinsed in site water prior to use.

Corrected water depths in the vicinity of the sample locations ranged from +1.3 to -2.6 feet MLLW. No significant deviations from the 2012 project conditions survey were noted. Sediments in the outer portion of the proposed channel (stations A-C) were predominantly gray, poorly graded medium to coarse sands overlying marine clay deposits. Fine woody organic debris was noted in the cores from all stations in this area. Station A, in the outermost portion of the proposed channel, contained a 1 foot thick layer of fine wood chips approximately 1 foot below the water sediment interface. Sediment core penetration decreased significantly in the inner harbor (stations D-G) where marine clay and coarse fluvial deposits were encountered closer to the surface. Surficial deposits in these areas were generally medium to coarse sands overlain by a thin layer of loose fine sand and silt. The area surrounding the town dock was composed of mixed sand, gravel, and silt, generally 6 inches thick, over a cobble and gravel substrate. Sediment collection data is summarized in Table 1. Sampling logs are presented in Appendix B.

Table 1: Summary of Blue Hill Harbor Sediment Collection Data

Station ID	Latitude (NAD 83)	Longitude (NAD 83)	Time (EDT)	Corrected Water Depth (FT MLLW)	Penetration/ Recovery (FT)	# Attempts
A	-68.577540	44.409033	9:49	-2.6	4.2	2
B	-68.579677	44.410136	10:17	-0.3	3.1	3
C	-68.581801	44.410997	10:45	-0.4	5.9	3
D	-68.584183	44.411691	11:09	0.2	2.0	4
E	-68.585284	44.412200	11:34	1.2	3.2	5
F	-68.584558	44.412338	11:50	1.3	1.8	5
G	-68.585163	44.412593	12:16	0.9	0.5	6



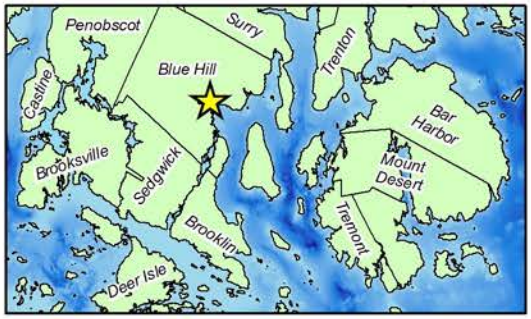
US Army Corps
of Engineers
New England District

FIGURE 1:
BLUE HILL HARBOR, BLUE HILL, ME
2015 SAMPLE LOCATIONS

0 250 500 750 1,000 Feet
0 100 200 300 Meters
1:8,000

2013 NAIP AERIAL IMAGERY

GCS NAD 1983



2.2 Sample Processing

Sample processing took place at an on-shore staging area located adjacent to the town dock in the innermost portion of the harbor. Sediment cores were transported to the processing area upon completion of the sampling effort. Upon arrival the cores were secured in an upright position and allowed to settle. After settling, the cores were measured, and clear excess water was carefully drained from the top of the core tube by drilling a small hole in the liner above the water/sediment interface. Measured cores were placed horizontally into a PVC trough and secured by hand. Each core liner was cut lengthwise using electric shears in two places, approximately 180° apart, and clean stainless steel wire was then used to slice the length of the core into two halves. Immediately after a core was split and exposed to the atmosphere, it was photographed, described, and transferred into a stainless steel pan for sampling. Sample processing equipment was cleaned with a brush and alconox solution then rinsed with deionized water prior to sampling and between each sample.

Each split core was photographed before undergoing the description process. All core photos included a stadia rod for scale and for referencing the depth below surface. A photograph of the complete core was taken, as well as close-ups of discrete layering down core, and sediment strata horizons/transitions of interest.

Cores were examined from the top of the core, downward to the bottom, using a stadia rod to define sediment layer thicknesses and depth below the surface (top of core at sediment–water interface). Each core was classified in accordance with ASTM D 2488, Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), and notes on relative grain sizes, color, odor, strata, and other pertinent observations were recorded in the environmental sampling logs (Appendix B).

After being described, the material from each core was transferred into a stainless steel pan and homogenized using stainless steel spatulas and spoons. Representative portions from all 7 core samples were placed in clean zip-loc bags to be analyzed for grain size, total solids, and percent moisture. The remaining material from samples that were determined to be visually and texturally similar during the classification process were composited according to the preliminary compositing plan (Table 2) developed by ERS. Material from samples to be composited was combined in a stainless steel pan and re-homogenized using clean stainless steel spatulas and spoons. Representative portions from each composite were placed into appropriate sample containers to be analyzed for the parameters listed in Table 3.

One equipment blank was collected as part of this sampling effort. The blank was collected by pouring several liters of deionized water through a length of clean core tube and into a sample processing pan containing a spoon and spatula used for sample homogenization and transfer. This water was then decanted into the appropriate sample jars.

All samples were maintained in coolers on ice for the duration of sampling activities and delivered to Alpha Analytical Laboratory in Mansfield, MA upon conclusion of the field sampling effort. The Chain of Custody forms are presented in Appendix C.

Table 2: Sample Compositing Plan for Chemical Analysis

Station ID	Composite Group
A	1
B	2
C	2
D	3
E	3
F	4
G	4

3.0 PHYSICAL AND CHEMICAL TESTING

This section summarizes the analytical methods used for physical and chemical testing of the samples collected from the proposed Blue Hill Harbor navigation improvement project in Blue Hill, ME. All testing was performed by Alpha Analytical Laboratory in Mansfield, MA. Physical testing included grain size analysis, total solids, and percent moisture measurements. Chemical analysis included total organic carbon (TOC), metals analyses, polycyclic aromatic hydrocarbons (PAH), polychlorinated biphenyls (PCBs), and pesticides. A complete list of parameters and target detection limits is provided in Table 3. A routine set of quality control (QC) samples was prepared with each set of samples, by parameter and media, to monitor data quality in terms of accuracy and precision. The frequency and type of QC samples and QC acceptance criteria is discussed in the laboratory report (Appendix C).

Table 3: Analytical Methods and Reporting Limits

Parameter	Method Reference	Method Number	Project Required RL	RL Units
Physical Tests				
Total Solids/Water Content	ASTM	D-2216	1.0	%
Grain Size (#4, 10, 40, 200)	ASTM	D-422	N/A	%
Total Organic Carbon (TOC)				
Total Organic Carbon	SW-846	9060	0.1	%
Metals				
Arsenic	SW 846	6020A	0.4	ppm
Cadmium	SW 846	6020A	0.07	ppm
Chromium	SW 846	6020A	0.5	ppm
Copper	SW 846	6020A	0.5	ppm
Lead	SW 846	6020A	0.5	ppm
Mercury	SW 846	7474	0.02	ppm
Nickel	SW 846	6020A	0.5	ppm
Zinc	SW 846	6020A	1.0	ppm
Polychlorinated Biphenyls (PCBs)				
Congeners 8, 18, 28, 44, 49, 52, 66, 87, 101, 105, 118, 128, 138, 153, 170, 180, 183, 184, 187, 195, 206, 209	SW-846	8082	0.001	ppm
Semivolatiles				
Poly-Aromatic Hydrocarbons	SW-846	8270C-SIM	0.01	ppm
Organochlorine Pesticides				
Pesticides	SW-846	8081B	0.001	ppm

3.1 Quality Assurance/Quality Control Procedures

All field and analytical activities used in the collection and analysis of sediments for physical and chemical testing followed approved SOPs, referenced approved agency methods, or are detailed in the project SAP (Appendix A).

3.1.1 Measurement Quality Objectives

Project specific Measurement Quality Objectives (MQOs), against which all data from this project were evaluated, are presented in Table 4. Physical and chemical data were evaluated against the MQOs and the laboratory based reporting limits. Organic compounds and metals analyzed for but not detected above the laboratory Practical Quantitation Limit (PQL) were recorded as the Reporting Limit (RL) and flagged with the qualifier "U".

Table 4: Measurement Quality Objectives

QC Parameter	Measure of Acceptance Criteria[a]	Corrective Action
Sediment and Water Chemistry	*Blank*: <5xMDL (or<5xMDL for metals)	Reextract, reanalyze, and/or document and justify corrective actions
Accuracy: Lab Control Sample (LCS)	*Organics:* 30-130% Recovery *Metals:*80-120% Recovery	As above
Accuracy: Matrix Spike/Matrix spike Duplicate	*Organics:* 50-120% Recovery *Metals:* 75 to 125% Recovery	As above
Accuracy: Standard Reference Material (SRM)	Must be within limits provided by the vendor (i.e. for organics, 40-140% recovery from certified concentrations for SRM 1944)	Evaluate LCS, MS/MSD & surrogates in sample, reanalyze if necessary, qualify data and issue narrative
Accuracy: Surrogate Internal Standard (SIS)	*Organics:* 30-150% Recovery	Reextract, reanalyze, and/or document and justify corrective actions
Precision	*Replicates:* MS/MSD: ≤30% RPD[b] between % recoveries *Sample Duplicate*: ≤30% RPD[c] between values *TOC*: RPD ≤25% Grain Size: RPD <25%	As Above

MDL = method detection limit: RPD = relative percent difference
[a] Quality control samples are based on analytical batch size of 20
[b] Analyte concentration in MS must be >5x background concentration to be used for data quality assessment

3.1.2 Chain of Custody

Sample custody forms accompanied all samples from the field to the laboratory. Copies of sample chain of custody forms are provided in the laboratory report (Appendix C).

3.1.3 Data Audits/ QA Review

All data received internal verification and validation following established procedures at the laboratory where the data were generated. QA/QC narratives are provided in the laboratory report (Appendix C). These narratives include a discussion of the chemistry QC results, a description of MQO exceedances, and the impact, if any, the exceedances may have on the overall field sample data.

3.1.4 Protocol Deviations

There were no deviations from the established laboratory testing protocols.

4.0 RESULTS AND DISCUSSION

This section summarizes results obtained from physical and chemical testing of sediments and a rinsate blank sample collected from the proposed Blue Hill Harbor navigation improvement project in Blue Hill, ME in October of 2015. Sediment samples from 7 individual stations were analyzed for grain size, total solids, and percent moisture. Based on the results of this physical analysis, the 4 composite groups described in section 2.2 as well as the rinsate blank were analyzed for metals, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides. A summary of the results of physical and chemical analysis are presented in Tables 5 through 10. Complete testing results for are provided in the laboratory report (Appendix C).

Table 5: Summary of Grain Size and Moisture Content Results

Sample ID	% Cobble	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Total Fines	% Moisture
A	0.1 (U)	0.1	2.2	6.6	21.6	69.5	55.3
B	0.1 (U)	0.1 (U)	1.7	3.5	7.4	87.4	51.2
C	0.1 (U)	1.1	1.9	4.9	12.1	80	54.5
D	0.1 (U)	4.4	13.2	34.8	35	12.6	19.6
E	0.1 (U)	1.8	8.8	26.7	37.9	24.8	33.2
F	0.1 (U)	5	14	30.6	29.8	20.6	26.8
G	0.1 (U)	45.9	12.4	16.7	16.2	8.8	21.4

U = Non-detected analytes are reported as the RL and qualified with a "U".

Table 6: Summary of TOC and Total Solids Results

Sample ID	% TOC Average Value	% Total Solids
A	8.32	44.7
COMP BC	3.735	48
COMP DE	1.76	73.3
COMP FG	0.883	71.7

Table 7: Summary of Total Metals Results

Parameter	A	COMP BC	COMP DE	COMP FG
Arsenic, Total	4.51	7.69	5.24	6.32
Cadmium, Total	0.644	0.833	0.12	0.161
Chromium, Total	21.1	30.9	12.3	10.8
Copper, Total	17.6	16.5	14.3	6.9
Lead, Total	21.7	21.8	23	10.5
Mercury, Total	0.033	0.029	0.017	0.015 (U)
Nickel, Total	15.6	23.6	10.3	9.4
Zinc, Total	54.2	64.1	40.6	37.9

U = Non-detected analytes are reported as the RL and qualified with a "U".
All concentrations are presented as mg/kg
Results are reported as dry weight

Table 8: Summary of PAH Results

Parameter	A	COMP BC	COMP DE	COMP FG
Acenaphthene	10.4 (U)	9.99 (U)	7.9	83.4
Acenaphthylene	26.8	16.1	108	448
Anthracene	17	10.6	78.3	1250
Benz(a)anthracene	102	68.9	532	2760
Benzo(a)pyrene	119	84	526	2090
Benzo(b)fluoranthene	116	88.5	537	2340
Benzo(ghi)perylene	86.5	61.8	345	1170
Benzo(k)fluoranthene	127	80.6	402	1850
Chrysene	136	101	604	2880
Dibenz(a,h)anthracene	22.5	14.5	87.7	529
Fluoranthene	257	191	1010	7090
Fluorene	10.4 (U)	9.99 (U)	27	789
Indeno(1,2,3-cd)Pyrene	95.2	66.8	363	1380
Naphthalene	10.4 (U)	9.99 (U)	17.6	37.9
Phenanthrene	121	96.7	407	4780
Pyrene	242	170	943	4740

U = Non-detected analytes are reported as the RL and qualified with a "U".
All concentrations are presented as µg/kg
Results are reported as dry weight

Table 9: Summary of PCB Results

Parameter	A	COMP BC	COMP DE	COMP FG
Cl2-BZ#8*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl3-BZ#18*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl3-BZ#28*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl4-BZ#44*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl4-BZ#49	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl4-BZ#52*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl4-BZ#66*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl5-BZ#87	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl5-BZ#101*	1.04 (U)	0.999 (U)	0.757	0.658 (U)
Cl5-BZ#105*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl5-BZ#118*	1.04 (U)	0.999 (U)	0.809	0.658 (U)
Cl6-BZ#128*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl6-BZ#138*	1.04 (U)	0.999 (U)	1.06	0.658 (U)
Cl6-BZ#153*	1.04 (U)	0.999 (U)	0.679	0.658 (U)
Cl7-BZ#170*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl7-BZ#180*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl7-BZ#183	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl7-BZ#184	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl7-BZ#187*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl8-BZ#195*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl9-BZ#206*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Cl10-BZ#209*	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Total PCBs[1]	17.68 (U)	11.322 (U)	14.442	11.645 (U)

U = Non-detected analytes are reported as the RL and qualified with a "U".
All concentrations are presented as µg/kg
Results are reported as dry weight
[1] Total PCBs calculated by summing the 18 PCB congeners marked with a "*" (using ½ the RL for non-detects) and multiplying the total by 2

Table 10: Summary of Pesticides Results

Parameter	A	COMP BC	COMP DE	COMP FG
4,4'-DDD	0.523 (U)	0.499 (U)	0.814	0.329 (U)
4,4'-DDE	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
4,4'-DDT	0.523 (U)	0.499 (U)	0.592 (IP)	0.329 (U)
Aldrin	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
cis-Chlordane	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
cis-Nonachlor	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Dieldrin	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Endosulfan I	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Endosulfan II	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Endrin	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
gamma-BHC	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Heptachlor	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
Heptachlor epoxide	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Hexachlorobenzene	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Methoxychlor	5.23 (U)	4.99 (U)	3.64 (P)	3.29 (U)
Oxychlordane	1.04 (U)	0.999 (U)	0.675 (U)	0.658 (U)
Toxaphene	26.2 (U)	25.1 (U)	17 (U)	16.5 (U)
trans-Chlordane	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)
trans-Nonachlor	0.523 (U)	0.499 (U)	0.338 (U)	0.329 (U)

U = Non-detected analytes are reported as the RL and qualified with a "U".
P - The RPD between the results for the two columns exceeds the method-specified criteria.
I P = The RPD between the results for the two columns exceeds the method-specified criteria; however, the lower value has been reported due to obvious interference
All concentrations are presented as µg/kg
Results are reported as dry weight

4.1 Rinsate Blank

One rinsate blank sample consisting of deionized water that was exposed to an unused section of core liner and the decontaminated sample processing equipment was analyzed for metals, PAHs, PCBs, and pesticides. Concentrations of the PAH Naphthalene (0.017 µg/l) were present in the rinsate blank. This concentration was several orders of magnitude lower than what was found in the sediments from Blue Hill Harbor, therefore no corrective action was taken. No other target analytes were detected in the rinsate blank sample.

APPENDIX A SAMPLING AND ANALYSIS PLAN

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CENAE–EPV 23 October 2015

MEMORANDUM FOR: William Bartlett, Project Manager, CENAE-EPP

SUBJECT: Sampling and Analysis Plan for the Blue Hill Harbor Section 107 Navigation Improvement Project in Blue Hill, Maine.

1. **Background:** Blue Hill Harbor is the principal commercial fishing harbor of the Town of Blue Hill, located on the western shore of Blue Hill Bay in Hancock County, Maine. Blue Hill Harbor is located off the northwest end of Blue Hill Bay just west-northwest of Long Island and due west of Union River Bay. The inner harbor contains the Town Wharf and docks which are dry at mean low water.

The Town of Blue Hill, as part of its waterfront economic plan, requested that the New England District (NAE) of the U.S. Army Corps of Engineers (USACE) investigate the potential of establishing a federal channel and turning basin to allow full time vessel traffic to the inner harbor. The results of this study determined that a 1 acre turning basin and a 60 to 80 foot wide waterfront channel extending from the central Town Wharf approximately 2,500 feet southeast into deep water would be required to meet the project objectives. Both the turning basin/anchorage and channel would be dredged to a depth of 6 feet at mean lower low water (MLLW) plus 1 foot of allowable over depth. This would produce approximately 62,500 cubic yards of mixed gravel, sand, and silt. It is expected that this material would be mechanically dredged and placed at either the Tupper Ledge Disposal Site (TLDS) or Eastern Passage Disposal Site (EPDS).

The purpose of the sampling and analysis plan described below is to gather information to support a suitability determination for the proposed disposal option(s). Sediment from the proposed dredge area will be collected and shall undergo physical and chemical analysis. The results of analysis will be evaluated against recently collected samples from the TLDS and EPDS reference areas.

2. **Methodology:** All sampling and analysis activities shall follow the requirements set forth in the “Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters" (RIM) dated May 6, 2004. All laboratories used for this project must have an approved Laboratory Quality Assurance Plan (LQAP) on file with NAE. Any data produced from a lab without an approved LQAP will not be accepted. The RIM, a list of laboratories with approved LQAPs, and the reporting format and requirements for electronic submission of data are available for download through the NAE website:

http://www.nae.usace.army.mil/Missions/Regulatory/DredgedMaterialProgram/RegionalImplementationManual.aspx

3. **Known Sources of Contamination:** Based on a review of historic data and communication with local officials it has been determined that there have been no recent spills in the vicinity of the proposed project. There is one storm water outfall that runs from the Town Wharf to a point approximately 2000 feet to the south where it empties into Mellos Cove. This is not expected to have an impact on the sediments to be dredged.

4. **Sample Collection:** Sediment cores shall be taken from the area to be dredged at the seven locations specified in Table 1 (also see Figures 1). Core samples shall be taken to the proposed dredge depth plus the overdepth amount or refusal. The cores shall be inspected in the field for stratification. If the cores show significant stratification, in the opinion of the sampling crew, subsamples shall be made of each layer. Sufficient material shall be collected for grain size and bulk sediment chemistry analyses as described in the sections below.

All sediment and water being held for testing shall be stored in accordance with the requirements in Table 2 (from Table 8-2 in Evaluation of Dredged Material Proposed for Ocean Disposal, Testing Manual, 1991).

5. **Positioning:** The latitude and longitude for each sample location shall be reported in the Geographic NAD 83 coordinate system in decimal degree format. The horizontal accuracy of each sample location shall be ten feet or less. The horizontal accuracy at each sample location shall be reported along with the coordinates.

6. **Grain Size:** Each core or core layer shall be individually analyzed for grain size and the results reported to the Environmental Resources Section (ERS) project technical manager before any compositing is performed. The final compositing plan will be determined based on sample proximity, sediment type, and physical characteristics. Grain size analysis shall also be performed on the reference site sample. The results of physical analysis may be used to support compliance with one or more of the three exclusionary criteria in 40 CFR 227.13(b) for ocean disposal or support a determination that the material is not a carrier of contaminants under 40 CFR 230.60(a) for other open water disposal.

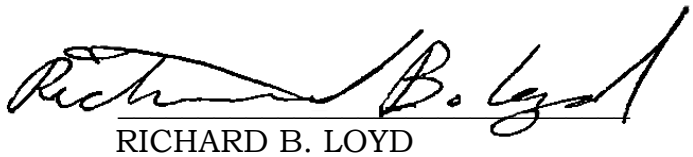
7. **Sediment Chemistry**: Bulk sediment chemistry shall be performed on the individual or composite sediment samples from the dredge area according to the final compositing plan. Testing parameters, analytical methods, and

reporting limits to be used are outlined in Table 2 (Extracted from Tables 1, 2, and 3 of the RIM). The listed analytical methods are recommended but can be replaced by other methods that will give the required reporting limits. The Total Organic Carbon analysis (TOC) shall be performed in duplicate on each composited sample and a TOC Standard Reference Material (SRM) shall be run with the sample batch. Additional guidance on the physical and chemical analysis of sediments can be found in Chapter 5 of the RIM.

8. **Reporting:** All sediment testing data is required to be submitted electronically in the electronic data deliverable (EDD) format available on the RIM website. Hard copy data submission is also required but may be substituted with a printer friendly, easy-to-read format (e.g., PDF, MS Word). Any analytes not detected shall be reported as the reporting limit and qualified with a "U". Non-detects shall not be reported as the method detection limit (MDL). RIM quality control summary tables are required to be submitted with each project dataset. These tables are found in Appendix II of the RIM and are available on the RIM website

9. Any questions should be directed to Richard Loyd (978-318-8048)

Prepared by:



RICHARD B. LOYD
Marine Ecologist
Environmental Resources Section

TABLE 1: SAMPLE LOCATIONS AND ESTIMATED PENETRATION

Station	X (NAD 83)	Y (NAD 83)	Survey Depth (Feet MLLW)	Project Depth (Feet MLLW)	Allowable Overdepth (Feet)	Estimated Core Length (Feet)
A	-68.577540	44.409033	-3.5	-6	-1	3.5
B	-68.579677	44.410136	-0.6	-6	-1	6.4
C	-68.581801	44.410997	0.1	-6	-1	7.1
D	-68.584183	44.411691	1.0	-6	-1	8.0
E	-68.585284	44.412200	1.9	-6	-1	8.9
F	-68.584558	44.412338	1.1	-6	-1	8.1
G	-68.585163	44.412593	1.8	-6	-1	8.8

Table 2: RECOMMENDED PROCEDURES FOR SAMPLE COLLECTION, PRESERVATION, AND STORAGE

Analyses	Collection Method	Sample Volume	Container	Preservation Technique	Storage Conditions	Holding Time[d]
Sediment						
Chemical/Physical Analyses						
Metals	Grab/corer	200 mL	Precleaned polyethylene jar[c]	Dry ice[c]	≤ 20° C[c]	Hg - 30 days Others - 6 Months[d]
Organic Compounds	Grab/corer	475 mL	Solvent-rinsed glass jar with Teflon lid[c]	Dry ice[c]	≤ 20° C/dark[d]	10 days[d]
Particle Size	Grab/corer	75 mL	Whirl-pac bag[c]	Dry ice[c]	≤ 20° C[c]	Undetermined
Total Organic Carbon	Grab/corer	3 L	Heat treated glass vial with Teflon lined lid[c]	Dry ice or freezer storage for extended storages; otherwise refrigerate	≤ 20° C[c]	Undetermined
Sediment From Which Elutriate is Prepared	Grab/corer	Dependant on tests performed	Glass with Teflon lined lid	Completely fill and Refrigerate	≤ 4° C/dark/airtight	Undetermined

[a] *This table contains only a summary of collection, preservation, and storage procedures for samples. The cited references should be consulted for a more detailed description of these procedures.*

[b] *These holding times are for sediment, water, and tissue based on guidance that is sometimes administrative rather than technical in nature. There are no promulgated, scientifically based holding time criteria for sediments, tissues, or elutriates. References should be consulted if holding times for sample extracts are desired. Holding times are from the time of sample collection.*

[c] *NOAA (1989).*

[d] *Tetra Tech (1986a)*

TABLE 3: BULK SEDIMENT TESTING PARAMETERS

Parameter	Analytical Method	Reporting Limit (ppm)
Metals		
Arsenic	6010B, 6020, 7060, 7061	0.4
Cadmium	6010B, 6020, 7130, 7131	0.07
Chromium	6010B, 6020, 7190, 7191	0.5
Copper	6010B, 6020, 7210	0.5
Lead	6010B, 6020, 7420, 7421	0.5
Mercury	7471	0.02
Nickel	6010B, 6020, 7520	0.5
Zinc	6010B, 6020, 7950	1.0
PCBs (total by NOAA summation of congeners)		
See next page	8082A	0.001
Pesticides	NOAA (1993), 8081B	0.001
Aldrin	Heptachlor epoxide	
cis- & trans-Chlordane	Hexachlorobenzene	
4,4'-DDT, DDD, DDE	Lindane	
Dieldrin	Methoxychlor	
α & β Endosulfan	cis- & trans-Nonachlor	
Endrin	Oxychlordane	
Heptachlor	Toxaphene	0.025
Polycyclic Aromatic Hydrocarbons (PAHs)	8270C-SIM	0.01
Acenaphthene	Chrysene	
Acenaphthylene	Dibenzo(a,h)anthracene	
Anthracene	Fluoranthene	
Benzo(a)anthracene	Fluorene	
Benzo(a)pyrene	Indeno(1, 2, 3-cd)pyrene	
Benzo(b)fluoranthene	Naphthalene	
Benzo(k)fluoranthene	Phenanthrene	
Benzo(g, h, i)perylene	Pyrene	
Total Organic Carbon	Plumb (1981), APHA (1995)	0.1%
Percent Moisture	Plumb (1981), EPA (1992), PSEP (1986)	1.0%
Grain Size	Wet Sieve (#4, 10, 40, 200)	

TABLE 3: BULK SEDIMENT TESTING PARAMETERS (CONTINUED)

PCB CONGENERS

Analytical Method: NOAA (1993), 8082A

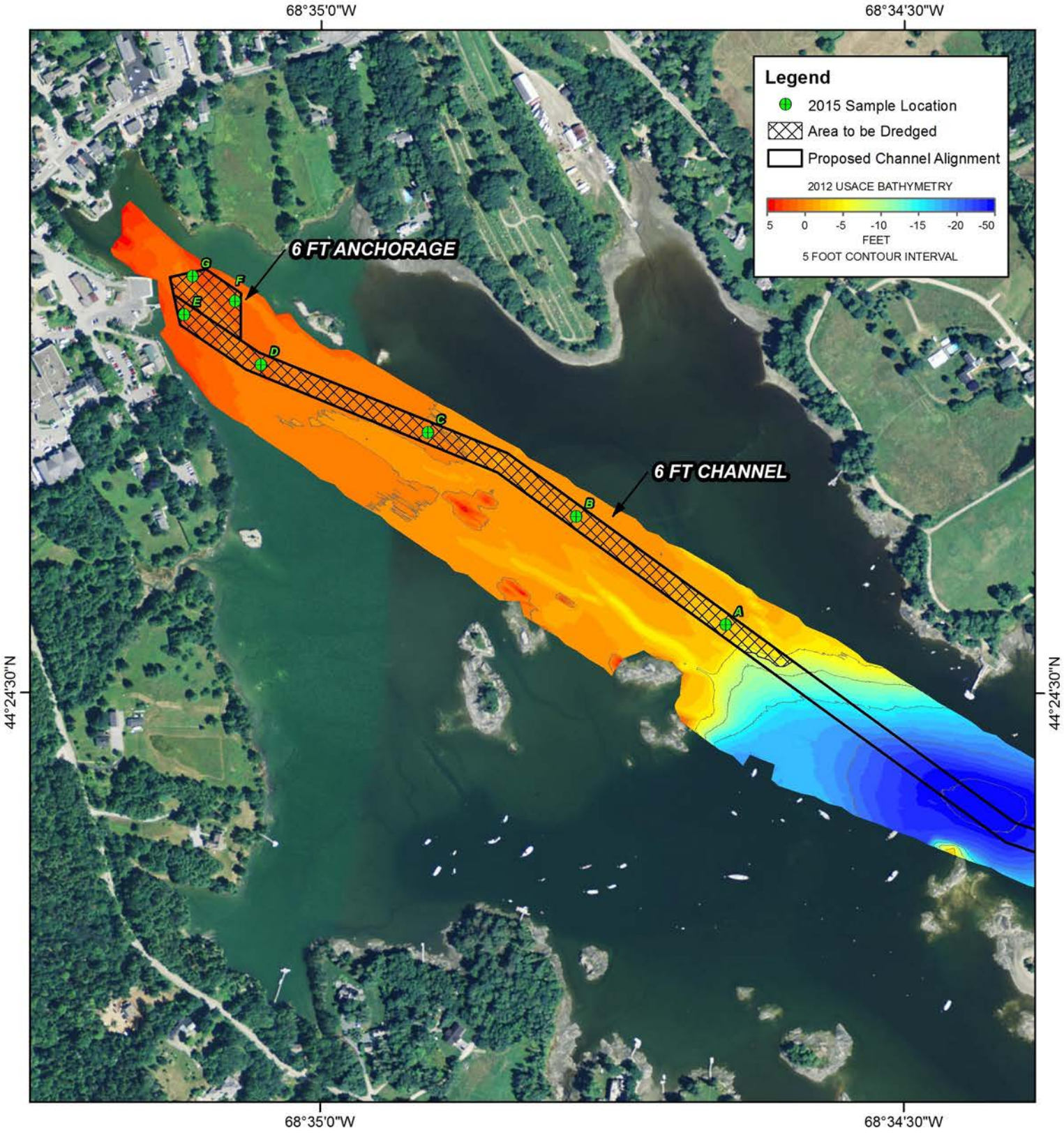
Reporting Limit: 1 ppb

Congeners:

8*	2,4' diCB
18*	2,2',5 triCB
28*	2,4,4' triCB
44*	2,2',3,5' tetraCB
49	2,2',4',5 tetraCB
52*	2,2',5,5' tetraCB
66*	2,3',4,4' tetraCB
87	2,2',3,4,5' pentaCB
101*	2,2',4,5,5' pentaCB
105*	2,3,3',4,4' pentaCB
118*	2,3',4,4',5 pentaCB
128*	2,3,3',4,4' hexaCB
138*	2,2',3,4,4',5' hexaCB
153*	2,2',4,4',5,5' hexaCB
170*	2,2',3,3',4,4',5 heptaCB
180*	2,2',3,4,4',5,5' heptaCB
183	2,2',3,4,4',5',6 heptaCB
184	2,2',3,4,4',6,6' heptaCB
187*	2,2',3,4',5,5',6 heptaCB
195*	2,2',3,3',4,4',5,6 octaCB
206*	2,2',3,3',4,4',5,5',6 nonaCB
209*	2,2',3,3',4,4',5,5',6,6' decaCB

* denotes a congener to be used in estimating Total PCB. To calculate Total PCB, sum the concentrations of all eighteen congeners marked with a "*" and multiply by 2.

The specified methods are recommendations only. Other acceptable methodologies capable of meeting the Reporting Limits can be used. Sample preparation methodologies (e.g. extraction and cleanup) and sample size may need to be modified to achieve the required Reporting Limits.



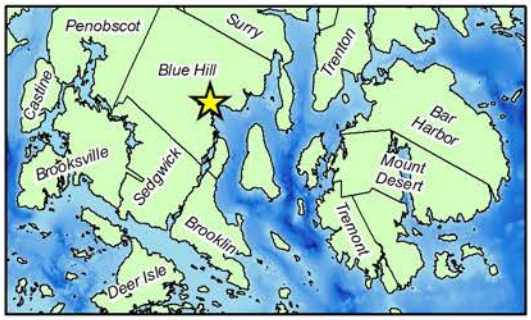
US Army Corps
of Engineers
New England District

FIGURE 1:
BLUE HILL HARBOR, BLUE HILL, ME
2015 SAMPLE LOCATIONS

0 250 500 750 1,000 Feet
0 100 200 300 Meters
1:8,000

2013 NAIP AERIAL IMAGERY

NAD 1983



APPENDIX B SAMPLING LOGS

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PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: A SAMPLER TYPE: Vibracore

TIME: 09:34

SOUNDING: -14.5’ CORRECTED DEPTH: -2.6’ MLLW

COORDINATES: N 44.409033 E -68.577540

PENETRATION/RECOVERY: 4.2’ NO. OF ATTEMPTS: 2

MATERIAL DESCRIPTION: Poorly graded fine sand and silt with wood chips over marine clay

CORE PHOTO:	NOTES:
	Core taken to refusal in clay. 0-1.3: SP/SM – Gray, poorly graded fine sand and silt with scattered woody debris. Soft and moist. Top 0.2 is loose and wet. 1.3-2.3: OL – Woody debris with fine sand. Loose and wet. Wood chips are 0.25-0.5”. 2.3-2.7: SP/SM - Gray, poorly graded fine sand and silt with scattered woody debris. Soft and moist. 2.7-4.2: CL – Light gray clay with fine sand, scattered woody debris and shell fragments. Firm and moist. H2S odor. Sample interval from 0-4.2’ at 14:53

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: B SAMPLER TYPE: Vibracore

TIME: 10:17

SOUNDING: - CORRECTED DEPTH: -0.3'MLLW

COORDINATES: N 44.410136 E -68.579677

PENETRATION/RECOVERY: 3.1' NO. OF ATTEMPTS: 3

MATERIAL DESCRIPTION: Fine sand and marine clay with shell fragments and woody organic debris

CORE PHOTO:	NOTES:
	Core taken to refusal in clay. 0-0.3: SP/SM – Dark gray, poorly graded fine sand and silt. Loose and wet. 0.3-3.1: CL - Olive gray sandy clay with scattered shell fragments and woody organic debris. Moist. Increasing firmness with depth (soft to very firm) H2S odor. Sample interval from 0-3.1' at 14:46

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: C SAMPLER TYPE: Vibracore

TIME: 10:12

SOUNDING: -13.3’ CORRECTED DEPTH: -0.4’ MLLW

COORDINATES: N 44.410997 E -68.581801

PENETRATION/RECOVERY: 5.9’ NO. OF ATTEMPTS: 3

MATERIAL DESCRIPTION: Fine sand and marine clay with shell fragments and woody organic debris

CORE PHOTO:	NOTES:
	Core taken to refusal in clay. Multiple attempts with variable penetration. Longest core retained for sample. 0-0.5: SP/SM - Dark gray, poorly graded fine sand and silt. Loose and wet. 0.5-2.4: SP - Dark gray clayey sand with scattered shell fragments. Layer of packed woody debris from 1.2-1.3. Soft and moist. 2.4-5.9: CL – Olive gray sandy clay with scattered shell fragments and woody organic debris. Firm and moist. H2S odor. Sample interval from 0-5.9’ at 14:33

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: D SAMPLER TYPE: Vibracore

TIME: 11:09

SOUNDING: -12.6’ CORRECTED DEPTH: +0.2’ MLLW

COORDINATES: N 43.001885 E -70.751137

PENETRATION/RECOVERY: 2.0’ NO. OF ATTEMPTS: 4

MATERIAL DESCRIPTION: Poorly graded M/C sand with shell fragments and woody organic debris

CORE PHOTO:	NOTES:
	Core taken to refusal in clayey sand. Plug was lost at water surface. 0-0.4: SP/SM - Dark gray, poorly graded fine sand and silt. Loose and wet. 0.4-2.0: SP- Gray, poorly graded medium to coarse sand with scattered shell fragments and woody organic debris. Increasingly coarse with depth. Very firm and moist. H2S odor. Sample interval from 0-2.0’ at 14:22

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: E SAMPLER TYPE: Vibracore

TIME: 11:34

SOUNDING: -11.3 CORRECTED DEPTH: +1.2' MLLW

COORDINATES: N 44.412200 E -68.585284

PENETRATION/RECOVERY: 3.2 NO. OF ATTEMPTS: 5

MATERIAL DESCRIPTION: Poorly graded medium to coarse sand with woody organic debris

CORE PHOTO:	NOTES:
	Core taken to refusal on hard packed sand. 0-1.7: SP/SM – Gray, poorly graded fine sand and silt with scattered shell fragments and woody debris. Soft and moist. Top 0.1 is loose and wet. 1.7-3.1: SP – Dark gray, poorly graded medium to coarse sand with scattered shell fragments and woody organic debris. Increasingly coarse with depth. A lense of clam shell fragments is present from 2.2-2.4. Firm and moist. 3.1-3.2: SP – Dark gray, poorly graded coarse sand mixed with woody debris. Firm and moist. H2S odor. Sample interval from 0-3.2' at 14:13

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: F SAMPLER TYPE: Vibracore

TIME: 11:50

SOUNDING: -10.8’ CORRECTED DEPTH: +1.3’ MLLW

COORDINATES: N 44.412338 E -68.584558

PENETRATION/RECOVERY: 1.8’ NO. OF ATTEMPTS: 5

MATERIAL DESCRIPTION: Poorly graded medium to coarse sand over marine clay

CORE PHOTO:	NOTES:
	Core taken to refusal in clay. Multiple attempts in vicinity of station with poor penetration. Longest core retained for sample. 0-0.1: SP/SM - Dark gray, poorly graded fine sand and silt. Loose and wet. 0.1-1.2: SP - Dark gray poorly graded medium to coarse sand with scattered shell fragments. Firm and moist. 1.2-1.8: CL – Olive gray clay with scattered woody organic debris. Very firm and moist. H2S odor. Sample interval from 0-1.8’ at 14:00

PROJECT: Blue Hill Harbor DATE: 10/28/2015

SAMPLING PERSONNEL: RBL, ADH, TAR

SEA STATE: Calm WEATHER CODE: Overcast

LOCATION METHOD: DGPS

SAMPLE ID: G SAMPLER TYPE: Vibracore

TIME: 12:16

SOUNDING: -10.3 CORRECTED DEPTH: +0.9' MLLW

COORDINATES: N 44.412593 E -68.585163

PENETRATION/RECOVERY: 0.5 NO. OF ATTEMPTS: 6

MATERIAL DESCRIPTION:

CORE PHOTO:	NOTES:
	Multiple attempts in vicinity of station with less than 6 inches of penetration. Sediment at this location consists of mixed sand, gravel, silt, and shell fragments over cobble and gravel deposits. Sample taken from multiple 6" long cores at 13:45.

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APPENDIX C LABORATORY REPORT

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Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Organic Carbon - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG842407-4 QC Sample: L1527873-07 Client ID: COMP DE												
Total Organic Carbon (Rep1)	1.99	0.543	2.19	**37**	Q	-	-		75-125	-		25
Total Organic Carbon (Rep2)	1.53	0.921	3.01	**161**	Q	-	-		75-125	-		25

F-35

ANALYTICAL REPORT

Lab Number:	L1527873
Client:	U.S. Army Corps of Engineers 696 Virginia Road Concord, MA 01742-2751
ATTN:	Richard Loyd
Phone:	(978) 318-8048
Project Name:	BLUE HILL HARBOR
Project Number:	Not Specified
Report Date:	11/19/15

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), ME (MA00030), PA (68-02089), VA (460194), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), USFWS (Permit #LE2069641), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1527873-01	A	SOIL	BLUE HILL, ME	10/28/15 14:53	10/29/15
L1527873-02	B	SOIL	BLUE HILL, ME	10/28/15 14:46	10/29/15
L1527873-03	C	SOIL	BLUE HILL, ME	10/28/15 14:33	10/29/15
L1527873-04	COMP BC	SOIL	BLUE HILL, ME	10/28/15 14:46	10/29/15
L1527873-05	D	SOIL	BLUE HILL, ME	10/28/15 14:22	10/29/15
L1527873-06	E	SOIL	BLUE HILL, ME	10/28/15 14:13	10/29/15
L1527873-07	COMP DE	SOIL	BLUE HILL, ME	10/28/15 14:22	10/29/15
L1527873-08	F	SOIL	BLUE HILL, ME	10/28/15 14:00	10/29/15
L1527873-09	G	SOIL	BLUE HILL, ME	10/28/15 13:43	10/29/15
L1527873-10	COMP FG	SOIL	BLUE HILL, ME	10/28/15 14:00	10/29/15
L1527873-11	DUP(C)	SOIL	BLUE HILL, ME	10/28/15 14:33	10/29/15
L1527873-12	BLANK	WATER	BLUE HILL, ME	10/28/15 14:53	10/29/15

F-87

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

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 all of the requirements of NELAC, for all NELAC accredited parameters. 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. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated 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.

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 table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

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 Client Service Representative 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 Client Services at 800-624-9220 with any questions.

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873
Project Number: Not Specified **Report Date:** 11/19/15

Case Narrative (continued)

Semivolatile Organics
L1527873-10 was re-analyzed on dilution in order to quantify the sample within the calibration range. The results should be considered estimated, and are qualified with an E flag, for any compounds that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compounds that exceeded the calibration range.

The WG836995-6 Laboratory Duplicate RPDs, performed on L1527873-04, are outside the acceptance criteria for Acenaphthylene (31%), Phenanthrene (46%), Anthracene (106%), Fluoranthene (37%), Pyrene (40%), Benz(a)anthracene (53%), Chrysene (38%), Benzo(b)fluoranthene (31%), Benzo(k)fluoranthene (36%), Benzo(a)pyrene (39%) and Dibenz(a,h)anthracene (33%). The elevated RPD's have been attributed to the non-homogeneous nature of the native sample.

WG836995-4/-5 MD/MSD performed on L1527873-07: Fluoranthene response exceeded the calibration range. The concentrations are considered estimated and qualified with an (E) flag. The percent recoveries for Fluoranthene met the acceptance criteria therefore no further action was taken.

The continuing calibration standard, associated with the 25X dilution of L1527873-10 had the response for DBOB (20.2%D) above the acceptance criteria for the method.

Pesticides
Samples L1527873-01 and -10 had the surrogate BZ198 (186%/490%) recovered above the acceptance criteria for column A. The surrogate recoveries for column B were within acceptance criteria as were the recoveries for the surrogate DBOB. No further action was taken.

The opening continuing calibration WG838057-1, associated with L1527873-12 and the extraction QC WG836523-1, -2 and -3, had the response for 4,4'-DDD (23.9%D column A) above the acceptance criteria. This represents a potential high bias and the associated sample was non-detect; therefore no further action was taken.

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873
Project Number: Not Specified **Report Date:** 11/19/15

Case Narrative (continued)

The WG836523-1 (Method Blank) and WG836523-3 (LCSD), associated with sample L1527873-12, had the surrogate BZ198 (164%/166%) recovered above the acceptance criteria for column A. The surrogate recoveries for column B were within acceptance criteria as were the recoveries for the surrogate DBOB. No further action was taken.

The WG836998-3 (LCSD), associated with samples L1527873-01, -04, -07 and -10, had the surrogate BZ198 (199%) recovered above the acceptance criteria for column A. The surrogate recovery for column B was within acceptance criteria as were the recoveries for the surrogate DBOB. No further action was taken.

The WG836998-4/-5 (MS/MSD), performed on sample L1527873-07, had the surrogate BZ198 (242%/492%) recovered above the acceptance criteria for column A. The surrogate recoveries for column B were within acceptance criteria as were the recoveries for the surrogate DBOB. No further action was taken.

The WG836998-7 (SRM), recovered trans-Nonachlor (449%) and the surrogate BZ198 (240%) above the acceptance criteria due to matrix interference. All other monitered compounds and surrogates recovered within the acceptance criteria. No further action was taken.

Metals
L1527873-12: The Field Blank has a concentration above the reporting limit for Arsenic. The results were confirmed.

The low level calibration check (LLC), associated with WG840344, has a concentration above the reporting limit for Copper and Lead. Since the associated sample concentrations are greater than 10x the low level calibration check concentration for this analyte, no corrective action is required.

The WG839678-6 Laboratory Duplicate RPD, performed on L1527873-04, is outside the acceptance criteria for Mercury (91%). The elevated RPD has been attributed to the non-homogeneous nature of the native sample.

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873
Project Number: Not Specified **Report Date:** 11/19/15

Case Narrative (continued)

Total Organic Carbon

The WG842407-4 MS recoveries for Total Organic Carbon (Rep1) (37%) and Total Organic Carbon (Rep2) (161%), performed on L1527873-07, are outside the 75-125% acceptance criteria, possibly due to sample matrix. The associated SRM recoveries are within criteria indicating the sample batch was in control, and all sample results were accepted.

Grain Size

The WG842455-1 Laboratory Duplicate RPD, performed on L1527873-03, is outside the acceptance criteria for %Coarse Sand.

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: Peter Henriksen

Title: Technical Director/Representative Date: 11/19/15

ORGANICS

SEMIVOLATILES

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-01
Client ID: A
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 20:15
Analyst: SF
Percent Solids: 45%

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	ND		ug/kg	10.4	--	1
Acenaphthylene	26.8		ug/kg	10.4	--	1
Acenaphthene	ND		ug/kg	10.4	--	1
Fluorene	ND		ug/kg	10.4	--	1
Phenanthrene	121		ug/kg	10.4	--	1
Anthracene	17.0		ug/kg	10.4	--	1
Fluoranthene	257		ug/kg	10.4	--	1
Pyrene	242		ug/kg	10.4	--	1
Benz(a)anthracene	102		ug/kg	10.4	--	1
Chrysene	136		ug/kg	10.4	--	1
Benzo(b)fluoranthene	116		ug/kg	10.4	--	1
Benzo(k)fluoranthene	127		ug/kg	10.4	--	1
Benzo(a)pyrene	119		ug/kg	10.4	--	1
Indeno(1,2,3-cd)Pyrene	95.2		ug/kg	10.4	--	1
Dibenz(a,h)anthracene	22.5		ug/kg	10.4	--	1
Benzo(ghi)perylene	86.5		ug/kg	10.4	--	1
Cl2-BZ#8	ND		ug/kg	1.04	--	1
Cl3-BZ#18	ND		ug/kg	1.04	--	1
Cl3-BZ#28	ND		ug/kg	1.04	--	1
Cl4-BZ#44	ND		ug/kg	1.04	--	1
Cl4-BZ#49	ND		ug/kg	1.04	--	1
Cl4-BZ#52	ND		ug/kg	1.04	--	1
Cl4-BZ#66	ND		ug/kg	1.04	--	1
Cl5-BZ#87	ND		ug/kg	1.04	--	1
Cl5-BZ#101	ND		ug/kg	1.04	--	1
Cl5-BZ#105	ND		ug/kg	1.04	--	1
Cl5-BZ#118	ND		ug/kg	1.04	--	1
Cl6-BZ#128	ND		ug/kg	1.04	--	1
Cl6-BZ#138	ND		ug/kg	1.04	--	1
Cl6-BZ#153	ND		ug/kg	1.04	--	1

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-01 Date Collected: 10/28/15 14:53

Client ID: A Date Received: 10/29/15

Sample Location: BLUE HILL, ME Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#170	ND		ug/kg	1.04	--	1
Cl7-BZ#180	ND		ug/kg	1.04	--	1
Cl7-BZ#183	ND		ug/kg	1.04	--	1
Cl7-BZ#184	ND		ug/kg	1.04	--	1
Cl7-BZ#187	ND		ug/kg	1.04	--	1
Cl8-BZ#195	ND		ug/kg	1.04	--	1
Cl9-BZ#206	ND		ug/kg	1.04	--	1
Cl10-BZ#209	ND		ug/kg	1.04	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	62		30-150
Pyrene-d10	60		30-150
Benzo(b)fluoranthene-d12	61		30-150
DBOB	75		30-150
BZ 198	69		30-150

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-04
Client ID: COMP BC
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 20:49
Analyst: SF
Percent Solids: 48%

Date Collected: 10/28/15 14:46
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	ND		ug/kg	9.99	--	1
Acenaphthylene	16.1		ug/kg	9.99	--	1
Acenaphthene	ND		ug/kg	9.99	--	1
Fluorene	ND		ug/kg	9.99	--	1
Phenanthrene	96.7		ug/kg	9.99	--	1
Anthracene	10.6		ug/kg	9.99	--	1
Fluoranthene	191		ug/kg	9.99	--	1
Pyrene	170		ug/kg	9.99	--	1
Benz(a)anthracene	68.9		ug/kg	9.99	--	1
Chrysene	101		ug/kg	9.99	--	1
Benzo(b)fluoranthene	88.5		ug/kg	9.99	--	1
Benzo(k)fluoranthene	80.6		ug/kg	9.99	--	1
Benzo(a)pyrene	84.0		ug/kg	9.99	--	1
Indeno(1,2,3-cd)Pyrene	66.8		ug/kg	9.99	--	1
Dibenz(a,h)anthracene	14.5		ug/kg	9.99	--	1
Benzo(ghi)perylene	61.8		ug/kg	9.99	--	1
Cl2-BZ#8	ND		ug/kg	0.999	--	1
Cl3-BZ#18	ND		ug/kg	0.999	--	1
Cl3-BZ#28	ND		ug/kg	0.999	--	1
Cl4-BZ#44	ND		ug/kg	0.999	--	1
Cl4-BZ#49	ND		ug/kg	0.999	--	1
Cl4-BZ#52	ND		ug/kg	0.999	--	1
Cl4-BZ#66	ND		ug/kg	0.999	--	1
Cl5-BZ#87	ND		ug/kg	0.999	--	1
Cl5-BZ#101	ND		ug/kg	0.999	--	1
Cl5-BZ#105	ND		ug/kg	0.999	--	1
Cl5-BZ#118	ND		ug/kg	0.999	--	1
Cl6-BZ#128	ND		ug/kg	0.999	--	1
Cl6-BZ#138	ND		ug/kg	0.999	--	1
Cl6-BZ#153	ND		ug/kg	0.999	--	1

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-04 Date Collected: 10/28/15 14:46

Client ID: COMP BC Date Received: 10/29/15

Sample Location: BLUE HILL, ME Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#170	ND		ug/kg	0.999	--	1
Cl7-BZ#180	ND		ug/kg	0.999	--	1
Cl7-BZ#183	ND		ug/kg	0.999	--	1
Cl7-BZ#184	ND		ug/kg	0.999	--	1
Cl7-BZ#187	ND		ug/kg	0.999	--	1
Cl8-BZ#195	ND		ug/kg	0.999	--	1
Cl9-BZ#206	ND		ug/kg	0.999	--	1
Cl10-BZ#209	ND		ug/kg	0.999	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	72		30-150
Pyrene-d10	72		30-150
Benzo(b)fluoranthene-d12	73		30-150
DBOB	88		30-150
BZ 198	86		30-150

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-07
Client ID: COMP DE
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 21:56
Analyst: SF
Percent Solids: 73%

Date Collected: 10/28/15 14:22
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	17.6		ug/kg	6.75	--	1
Acenaphthylene	108		ug/kg	6.75	--	1
Acenaphthene	7.90		ug/kg	6.75	--	1
Fluorene	27.0		ug/kg	6.75	--	1
Phenanthrene	407		ug/kg	6.75	--	1
Anthracene	78.3		ug/kg	6.75	--	1
Fluoranthene	1010		ug/kg	6.75	--	1
Pyrene	943		ug/kg	6.75	--	1
Benz(a)anthracene	532		ug/kg	6.75	--	1
Chrysene	604		ug/kg	6.75	--	1
Benzo(b)fluoranthene	537		ug/kg	6.75	--	1
Benzo(k)fluoranthene	402		ug/kg	6.75	--	1
Benzo(a)pyrene	526		ug/kg	6.75	--	1
Indeno(1,2,3-cd)Pyrene	363		ug/kg	6.75	--	1
Dibenz(a,h)anthracene	87.7		ug/kg	6.75	--	1
Benzo(ghi)perylene	345		ug/kg	6.75	--	1
Cl2-BZ#8	ND		ug/kg	0.675	--	1
Cl3-BZ#18	ND		ug/kg	0.675	--	1
Cl3-BZ#28	ND		ug/kg	0.675	--	1
Cl4-BZ#44	ND		ug/kg	0.675	--	1
Cl4-BZ#49	ND		ug/kg	0.675	--	1
Cl4-BZ#52	ND		ug/kg	0.675	--	1
Cl4-BZ#66	ND		ug/kg	0.675	--	1
Cl5-BZ#87	ND		ug/kg	0.675	--	1
Cl5-BZ#101	0.757		ug/kg	0.675	--	1
Cl5-BZ#105	ND		ug/kg	0.675	--	1
Cl5-BZ#118	0.809		ug/kg	0.675	--	1
Cl6-BZ#128	ND		ug/kg	0.675	--	1
Cl6-BZ#138	1.06		ug/kg	0.675	--	1
Cl6-BZ#153	0.679		ug/kg	0.675	--	1

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-07 Date Collected: 10/28/15 14:22

Client ID: COMP DE Date Received: 10/29/15

Sample Location: BLUE HILL, ME Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#170	ND		ug/kg	0.675	--	1
Cl7-BZ#180	ND		ug/kg	0.675	--	1
Cl7-BZ#183	ND		ug/kg	0.675	--	1
Cl7-BZ#184	ND		ug/kg	0.675	--	1
Cl7-BZ#187	ND		ug/kg	0.675	--	1
Cl8-BZ#195	ND		ug/kg	0.675	--	1
Cl9-BZ#206	ND		ug/kg	0.675	--	1
Cl10-BZ#209	ND		ug/kg	0.675	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	79		30-150
Pyrene-d10	79		30-150
Benzo(b)fluoranthene-d12	79		30-150
DBOB	100		30-150
BZ 198	97		30-150

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10
Client ID: COMP FG
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 23:37
Analyst: SF
Percent Solids: 72%

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	37.9		ug/kg	6.58	--	1
Acenaphthylene	448		ug/kg	6.58	--	1
Acenaphthene	83.4		ug/kg	6.58	--	1
Fluorene	789		ug/kg	6.58	--	1
Phenanthrene	4590	E	ug/kg	6.58	--	1
Anthracene	1250		ug/kg	6.58	--	1
Fluoranthene	6940	E	ug/kg	6.58	--	1
Pyrene	4550	E	ug/kg	6.58	--	1
Benz(a)anthracene	2980	E	ug/kg	6.58	--	1
Chrysene	3000	E	ug/kg	6.58	--	1
Benzo(b)fluoranthene	2450	E	ug/kg	6.58	--	1
Benzo(k)fluoranthene	1880	E	ug/kg	6.58	--	1
Benzo(a)pyrene	2190	E	ug/kg	6.58	--	1
Indeno(1,2,3-cd)Pyrene	1550	E	ug/kg	6.58	--	1
Dibenz(a,h)anthracene	529		ug/kg	6.58	--	1
Benzo(ghi)perylene	1380	E	ug/kg	6.58	--	1
Cl2-BZ#8	ND		ug/kg	0.658	--	1
Cl3-BZ#18	ND		ug/kg	0.658	--	1
Cl3-BZ#28	ND		ug/kg	0.658	--	1
Cl4-BZ#44	ND		ug/kg	0.658	--	1
Cl4-BZ#49	ND		ug/kg	0.658	--	1
Cl4-BZ#52	ND		ug/kg	0.658	--	1
Cl4-BZ#66	ND		ug/kg	0.658	--	1
Cl5-BZ#87	ND		ug/kg	0.658	--	1
Cl5-BZ#101	ND		ug/kg	0.658	--	1
Cl5-BZ#105	ND		ug/kg	0.658	--	1
Cl5-BZ#118	ND		ug/kg	0.658	--	1
Cl6-BZ#128	ND		ug/kg	0.658	--	1
Cl6-BZ#138	ND		ug/kg	0.658	--	1
Cl6-BZ#153	ND		ug/kg	0.658	--	1

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10 Date Collected: 10/28/15 14:00

Client ID: COMP FG Date Received: 10/29/15

Sample Location: BLUE HILL, ME Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#170	ND		ug/kg	0.658	--	1
Cl7-BZ#180	ND		ug/kg	0.658	--	1
Cl7-BZ#183	ND		ug/kg	0.658	--	1
Cl7-BZ#184	ND		ug/kg	0.658	--	1
Cl7-BZ#187	ND		ug/kg	0.658	--	1
Cl8-BZ#195	ND		ug/kg	0.658	--	1
Cl9-BZ#206	ND		ug/kg	0.658	--	1
Cl10-BZ#209	ND		ug/kg	0.658	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	79		30-150
Pyrene-d10	78		30-150
Benzo(b)fluoranthene-d12	75		30-150
DBOB	94		30-150
BZ 198	92		30-150

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10 D
Client ID: COMP FG
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/06/15 11:40
Analyst: SF
Percent Solids: 72%

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Phenanthrene	4780		ug/kg	164	--	25
Fluoranthene	7090		ug/kg	164	--	25
Pyrene	4740		ug/kg	164	--	25
Benz(a)anthracene	2760		ug/kg	164	--	25
Chrysene	2880		ug/kg	164	--	25
Benzo(b)fluoranthene	2340		ug/kg	164	--	25
Benzo(k)fluoranthene	1850		ug/kg	164	--	25
Benzo(a)pyrene	2090		ug/kg	164	--	25
Indeno(1,2,3-cd)Pyrene	1380		ug/kg	164	--	25
Benzo(ghi)perylene	1170		ug/kg	164	--	25

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	71		30-150
Pyrene-d10	72		30-150
Benzo(b)fluoranthene-d12	69		30-150
DBOB	92		30-150
BZ 198	94		30-150

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-12
Client ID: BLANK
Sample Location: BLUE HILL, ME
Matrix: Water
Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/03/15 16:08
Analyst: SF

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/02/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Naphthalene	11.7		ng/l	10.8	--	1
Acenaphthylene	ND		ng/l	10.8	--	1
Acenaphthene	ND		ng/l	10.8	--	1
Fluorene	ND		ng/l	10.8	--	1
Phenanthrene	ND		ng/l	10.8	--	1
Anthracene	ND		ng/l	10.8	--	1
Fluoranthene	ND		ng/l	10.8	--	1
Pyrene	ND		ng/l	10.8	--	1
Benz(a)anthracene	ND		ng/l	10.8	--	1
Chrysene	ND		ng/l	10.8	--	1
Benzo(b)fluoranthene	ND		ng/l	10.8	--	1
Benzo(k)fluoranthene	ND		ng/l	10.8	--	1
Benzo(a)pyrene	ND		ng/l	10.8	--	1
Indeno(1,2,3-cd)Pyrene	ND		ng/l	10.8	--	1
Dibenz(a,h)anthracene	ND		ng/l	10.8	--	1
Benzo(ghi)perylene	ND		ng/l	10.8	--	1
Cl2-BZ#8	ND		ng/l	1.08	--	1
Cl3-BZ#18	ND		ng/l	1.08	--	1
Cl3-BZ#28	ND		ng/l	1.08	--	1
Cl4-BZ#44	ND		ng/l	1.08	--	1
Cl4-BZ#49	ND		ng/l	1.08	--	1
Cl4-BZ#52	ND		ng/l	1.08	--	1
Cl4-BZ#66	ND		ng/l	1.08	--	1
Cl5-BZ#87	ND		ng/l	1.08	--	1
Cl5-BZ#101	ND		ng/l	1.08	--	1
Cl5-BZ#105	ND		ng/l	1.08	--	1
Cl5-BZ#118	ND		ng/l	1.08	--	1
Cl6-BZ#128	ND		ng/l	1.08	--	1
Cl6-BZ#138	ND		ng/l	1.08	--	1
Cl6-BZ#153	ND		ng/l	1.08	--	1

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-12 Date Collected: 10/28/15 14:53

Client ID: BLANK Date Received: 10/29/15

Sample Location: BLUE HILL, ME Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab						
Cl7-BZ#170	ND		ng/l	1.08	--	1
Cl7-BZ#180	ND		ng/l	1.08	--	1
Cl7-BZ#183	ND		ng/l	1.08	--	1
Cl7-BZ#184	ND		ng/l	1.08	--	1
Cl7-BZ#187	ND		ng/l	1.08	--	1
Cl8-BZ#195	ND		ng/l	1.08	--	1
Cl9-BZ#206	ND		ng/l	1.08	--	1
Cl10-BZ#209	ND		ng/l	1.08	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	65		30-150
Pyrene-d10	85		30-150
Benzo(b)fluoranthene-d12	84		30-150
DBOB	73		30-150
BZ 198	77		30-150

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/03/15 10:30
Analyst: SF

Extraction Method: EPA 3510C
Extraction Date: 11/02/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 12 Batch: WG836522-1					
Naphthalene	ND		ng/l	10.0	--
Acenaphthylene	ND		ng/l	10.0	--
Acenaphthene	ND		ng/l	10.0	--
Fluorene	ND		ng/l	10.0	--
Phenanthrene	ND		ng/l	10.0	--
Anthracene	ND		ng/l	10.0	--
Fluoranthene	ND		ng/l	10.0	--
Pyrene	ND		ng/l	10.0	--
Benz(a)anthracene	ND		ng/l	10.0	--
Chrysene	ND		ng/l	10.0	--
Benzo(b)fluoranthene	ND		ng/l	10.0	--
Benzo(k)fluoranthene	ND		ng/l	10.0	--
Benzo(a)pyrene	ND		ng/l	10.0	--
Indeno(1,2,3-cd)Pyrene	ND		ng/l	10.0	--
Dibenz(a,h)anthracene	ND		ng/l	10.0	--
Benzo(ghi)perylene	ND		ng/l	10.0	--
Cl2-BZ#8	ND		ng/l	1.00	--
Cl3-BZ#18	ND		ng/l	1.00	--
Cl3-BZ#28	ND		ng/l	1.00	--
Cl4-BZ#44	ND		ng/l	1.00	--
Cl4-BZ#49	ND		ng/l	1.00	--
Cl4-BZ#52	ND		ng/l	1.00	--
Cl4-BZ#66	ND		ng/l	1.00	--
Cl5-BZ#87	ND		ng/l	1.00	--
Cl5-BZ#101	ND		ng/l	1.00	--
Cl5-BZ#105	ND		ng/l	1.00	--
Cl5-BZ#118	ND		ng/l	1.00	--
Cl6-BZ#128	ND		ng/l	1.00	--
Cl6-BZ#138	ND		ng/l	1.00	--

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/03/15 10:30
Analyst: SF

Extraction Method: EPA 3510C
Extraction Date: 11/02/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 12 Batch: WG836522-1					
Cl6-BZ#153	ND		ng/l	1.00	--
Cl7-BZ#170	ND		ng/l	1.00	--
Cl7-BZ#180	ND		ng/l	1.00	--
Cl7-BZ#183	ND		ng/l	1.00	--
Cl7-BZ#184	ND		ng/l	1.00	--
Cl7-BZ#187	ND		ng/l	1.00	--
Cl8-BZ#195	ND		ng/l	1.00	--
Cl9-BZ#206	ND		ng/l	1.00	--
Cl10-BZ#209	ND		ng/l	1.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	86		30-150
Pyrene-d10	96		30-150
Benzo(b)fluoranthene-d12	104		30-150
DBOB	75		30-150
BZ 198	78		30-150

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 18:01
Analyst: SF

Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG836995-1					
Naphthalene	ND		ug/kg	5.00	--
Acenaphthylene	ND		ug/kg	5.00	--
Acenaphthene	ND		ug/kg	5.00	--
Fluorene	ND		ug/kg	5.00	--
Phenanthrene	ND		ug/kg	5.00	--
Anthracene	ND		ug/kg	5.00	--
Fluoranthene	ND		ug/kg	5.00	--
Pyrene	ND		ug/kg	5.00	--
Benz(a)anthracene	ND		ug/kg	5.00	--
Chrysene	ND		ug/kg	5.00	--
Benzo(b)fluoranthene	ND		ug/kg	5.00	--
Benzo(k)fluoranthene	ND		ug/kg	5.00	--
Benzo(a)pyrene	ND		ug/kg	5.00	--
Indeno(1,2,3-cd)Pyrene	ND		ug/kg	5.00	--
Dibenz(a,h)anthracene	ND		ug/kg	5.00	--
Benzo(ghi)perylene	ND		ug/kg	5.00	--
Cl2-BZ#8	ND		ug/kg	0.500	--
Cl3-BZ#18	ND		ug/kg	0.500	--
Cl3-BZ#28	ND		ug/kg	0.500	--
Cl4-BZ#44	ND		ug/kg	0.500	--
Cl4-BZ#49	ND		ug/kg	0.500	--
Cl4-BZ#52	ND		ug/kg	0.500	--
Cl4-BZ#66	ND		ug/kg	0.500	--
Cl5-BZ#87	ND		ug/kg	0.500	--
Cl5-BZ#101	ND		ug/kg	0.500	--
Cl5-BZ#105	ND		ug/kg	0.500	--
Cl5-BZ#118	ND		ug/kg	0.500	--
Cl6-BZ#128	ND		ug/kg	0.500	--
Cl6-BZ#138	ND		ug/kg	0.500	--

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 105,8270D-SIM/680(M)
Analytical Date: 11/05/15 18:01
Analyst: SF

Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG836995-1					
Cl6-BZ#153	ND		ug/kg	0.500	--
Cl7-BZ#170	ND		ug/kg	0.500	--
Cl7-BZ#180	ND		ug/kg	0.500	--
Cl7-BZ#183	ND		ug/kg	0.500	--
Cl7-BZ#184	ND		ug/kg	0.500	--
Cl7-BZ#187	ND		ug/kg	0.500	--
Cl8-BZ#195	ND		ug/kg	0.500	--
Cl9-BZ#206	ND		ug/kg	0.500	--
Cl10-BZ#209	ND		ug/kg	0.500	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	86		30-150
Pyrene-d10	80		30-150
Benzo(b)fluoranthene-d12	82		30-150
DBOB	98		30-150
BZ 198	95		30-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 12 Batch: WG836522-2 WG836522-3								
Naphthalene	83		82		50-120	1		30
Acenaphthylene	79		78		50-120	1		30
Acenaphthene	81		80		50-120	1		30
Fluorene	82		80		50-120	2		30
Phenanthrene	87		87		50-120	0		30
Anthracene	76		73		50-120	4		30
Fluoranthene	87		82		50-120	6		30
Pyrene	85		81		50-120	5		30
Benz(a)anthracene	88		84		50-120	5		30
Chrysene	86		83		50-120	4		30
Benzo(b)fluoranthene	91		95		50-120	4		30
Benzo(k)fluoranthene	99		84		50-120	16		30
Benzo(a)pyrene	86		82		50-120	5		30
Indeno(1,2,3-cd)Pyrene	79		74		50-120	7		30
Dibenz(a,h)anthracene	86		82		50-120	5		30
Benzo(ghi)perylene	86		81		50-120	6		30
Cl2-BZ#8	86		93		50-120	8		30
Cl3-BZ#18	88		93		50-120	6		30
Cl3-BZ#28	88		94		50-120	7		30
Cl4-BZ#44	93		97		50-120	4		30
Cl4-BZ#49	87		90		50-120	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 12 Batch: WG836522-2 WG836522-3								
Cl4-BZ#52	95		102		50-120	7		30
Cl4-BZ#66	91		96		50-120	5		30
Cl5-BZ#87	92		96		50-120	4		30
Cl5-BZ#101	94		98		50-120	4		30
Cl5-BZ#105	91		96		50-120	5		30
Cl5-BZ#118	92		95		50-120	3		30
Cl6-BZ#128	88		92		50-120	4		30
Cl6-BZ#138	90		94		50-120	4		30
Cl6-BZ#153	93		94		50-120	1		30
Cl7-BZ#170	88		90		50-120	2		30
Cl7-BZ#180	89		93		50-120	4		30
Cl7-BZ#183	86		89		50-120	3		30
Cl7-BZ#184	91		95		50-120	4		30
Cl7-BZ#187	88		93		50-120	6		30
Cl8-BZ#195	88		92		50-120	4		30
Cl9-BZ#206	89		92		50-120	3		30
Cl10-BZ#209	95		100		50-120	5		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 12 Batch: WG836522-2 WG836522-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Methylnaphthalene-d10	80		78		30-150
Pyrene-d10	90		87		30-150
Benzo(b)fluoranthene-d12	96		92		30-150
DBOB	74		78		30-150
BZ 198	87		88		30-150

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Lab Control Sample Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG836995-2 WG836995-3								
Naphthalene	75		78		50-120	4		30
Acenaphthylene	72		73		50-120	1		30
Acenaphthene	74		74		50-120	0		30
Fluorene	76		75		50-120	1		30
Phenanthrene	76		72		50-120	5		30
Anthracene	69		65		50-120	6		30
Fluoranthene	74		72		50-120	3		30
Pyrene	70		66		50-120	6		30
Benz(a)anthracene	73		70		50-120	4		30
Chrysene	72		69		50-120	4		30
Benzo(b)fluoranthene	75		72		50-120	4		30
Benzo(k)fluoranthene	82		77		50-120	6		30
Benzo(a)pyrene	72		69		50-120	4		30
Indeno(1,2,3-cd)Pyrene	80		71		50-120	12		30
Dibenz(a,h)anthracene	78		74		50-120	5		30
Benzo(ghi)perylene	75		71		50-120	5		30
Cl2-BZ#8	76		71		50-120	7		30
Cl3-BZ#18	77		72		50-120	7		30
Cl3-BZ#28	77		73		50-120	5		30
Cl4-BZ#44	80		76		50-120	5		30
Cl4-BZ#49	74		72		50-120	3		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG836995-2 WG836995-3								
Cl4-BZ#52	83		75		50-120	10		30
Cl4-BZ#66	73		70		50-120	4		30
Cl5-BZ#87	81		78		50-120	4		30
Cl5-BZ#101	82		79		50-120	4		30
Cl5-BZ#105	82		77		50-120	6		30
Cl5-BZ#118	79		76		50-120	4		30
Cl6-BZ#128	81		78		50-120	4		30
Cl6-BZ#138	82		79		50-120	4		30
Cl6-BZ#153	81		80		50-120	1		30
Cl7-BZ#170	87		84		50-120	4		30
Cl7-BZ#180	85		81		50-120	5		30
Cl7-BZ#183	82		80		50-120	2		30
Cl7-BZ#184	86		82		50-120	5		30
Cl7-BZ#187	85		81		50-120	5		30
Cl8-BZ#195	92		89		50-120	3		30
Cl9-BZ#206	89		87		50-120	2		30
Cl10-BZ#209	100		94		50-120	6		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab	Associated sample(s): 01,04,07,10		Batch: WG836995-2 WG836995-3					

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Methylnaphthalene-d10	80		82		30-150
Pyrene-d10	78		73		30-150
Benzo(b)fluoranthene-d12	82		77		30-150
DBOB	93		87		30-150
BZ 198	87		85		30-150

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Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-4 WG836995-5 QC Sample: L1527873-07 Client ID: COMP DE												
Naphthalene	17.6	335	267	74		256	73		50-120	4		30
Acenaphthylene	108	335	363	76		338	71		50-120	7		30
Acenaphthene	7.90	335	250	72		237	70		50-120	5		30
Fluorene	27.0	335	306	83		293	82		50-120	4		30
Phenanthrene	407	335	771	109		751	106		50-120	3		30
Anthracene	78.3	335	346	80		328	77		50-120	5		30
Fluoranthene	1010	335	1360E	104		1320E	95		50-120	3		30
Pyrene	943	335	1280	101		1230	88		50-120	4		30
Benz(a)anthracene	532	335	800	80		763	71		50-120	5		30
Chrysene	604	335	888	85		838	72		50-120	6		30
Benzo(b)fluoranthene	537	335	777	72		749	65		50-120	4		30
Benzo(k)fluoranthene	402	335	717	94		691	89		50-120	4		30
Benzo(a)pyrene	526	335	803	83		765	73		50-120	5		30
Indeno(1,2,3-cd)Pyrene	363	335	720	107		672	95		50-120	7		30
Dibenz(a,h)anthracene	87.7	335	372	85		361	84		50-120	3		30
Benzo(ghi)perylene	345	335	624	83		584	73		50-120	7		30
Cl2-BZ#8	ND	67	50.1	75		48.7	75		50-120	3		30
Cl3-BZ#18	ND	67	50.4	75		48.8	75		50-120	3		30
Cl3-BZ#28	ND	67	51.4	77		49.7	76		50-120	3		30
Cl4-BZ#44	ND	67	54.5	81		52.6	81		50-120	4		30
Cl4-BZ#49	ND	67	51.4	77		50.0	77		50-120	3		30

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Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-4 WG836995-5 QC Sample: L1527873-07 Client ID: COMP DE												
Cl4-BZ#52	ND	67	53.1	79		51.5	79		50-120	3		30
Cl4-BZ#66	ND	67	49.9	75		48.1	74		50-120	4		30
Cl5-BZ#87	ND	67	55.3	83		52.8	81		50-120	5		30
Cl5-BZ#101	0.757	67	56.1	83		54.6	83		50-120	3		30
Cl5-BZ#105	ND	67	57.1	85		54.4	83		50-120	5		30
Cl5-BZ#118	0.809	67	54.4	80		52.7	80		50-120	3		30
Cl6-BZ#128	ND	67	56.4	84		54.0	83		50-120	4		30
Cl6-BZ#138	1.06	67	57.6	84		55.2	83		50-120	4		30
Cl6-BZ#153	0.679	67	56.4	83		54.7	83		50-120	3		30
Cl7-BZ#170	ND	67	61.6	92		59.5	91		50-120	3		30
Cl7-BZ#180	ND	67	57.8	86		55.5	85		50-120	4		30
Cl7-BZ#183	ND	67	57.2	85		54.8	84		50-120	4		30
Cl7-BZ#184	ND	67	58.5	87		56.5	87		50-120	3		30
Cl7-BZ#187	ND	67	57.7	86		55.9	86		50-120	3		30
Cl8-BZ#195	ND	67	63.8	95		60.3	93		50-120	6		30
Cl9-BZ#206	ND	67	61.3	92		59.3	91		50-120	3		30
Cl10-BZ#209	ND	67	66.2	99		64.6	99		50-120	2		30

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	77		75		30-150

Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits

RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-4 WG836995-5 QC Sample: L1527873-07
Client ID: COMP DE

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
BZ 198	94		90		30-150
Benzo(b)fluoranthene-d12	76		72		30-150
DBOB	95		92		30-150
Pyrene-d10	76		74		30-150

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Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-6 QC Sample: L1527873-04 Client ID: COMP BC						
Naphthalene	ND	ND	ug/kg	NC		30
Acenaphthylene	16.1	22.0	ug/kg	**31**	Q	30
Acenaphthene	ND	ND	ug/kg	NC		30
Fluorene	ND	17.5	ug/kg	NC		30
Phenanthrene	96.7	155	ug/kg	**46**	Q	30
Anthracene	10.6	34.7	ug/kg	**106**	Q	30
Fluoranthene	191	279	ug/kg	**37**	Q	30
Pyrene	170	256	ug/kg	**40**	Q	30
Benz(a)anthracene	68.9	118	ug/kg	**53**	Q	30
Chrysene	101	149	ug/kg	**38**	Q	30
Benzo(b)fluoranthene	88.5	121	ug/kg	**31**	Q	30
Benzo(k)fluoranthene	80.6	116	ug/kg	**36**	Q	30
Benzo(a)pyrene	84.0	125	ug/kg	**39**	Q	30
Indeno(1,2,3-cd)Pyrene	66.8	90.1	ug/kg	30		30
Dibenz(a,h)anthracene	14.5	20.2	ug/kg	**33**	Q	30
Benzo(ghi)perylene	61.8	82.8	ug/kg	29		30
Cl2-BZ#8	ND	ND	ug/kg	NC		30
Cl3-BZ#18	ND	ND	ug/kg	NC		30
Cl3-BZ#28	ND	ND	ug/kg	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-6 QC Sample: L1527873-04 Client ID: COMP BC					
Cl4-BZ#44	ND	ND	ug/kg	NC	30
Cl4-BZ#49	ND	ND	ug/kg	NC	30
Cl4-BZ#52	ND	ND	ug/kg	NC	30
Cl4-BZ#66	ND	ND	ug/kg	NC	30
Cl5-BZ#87	ND	ND	ug/kg	NC	30
Cl5-BZ#101	ND	ND	ug/kg	NC	30
Cl5-BZ#105	ND	ND	ug/kg	NC	30
Cl5-BZ#118	ND	ND	ug/kg	NC	30
Cl6-BZ#128	ND	ND	ug/kg	NC	30
Cl6-BZ#138	ND	ND	ug/kg	NC	30
Cl6-BZ#153	ND	ND	ug/kg	NC	30
Cl7-BZ#170	ND	ND	ug/kg	NC	30
Cl7-BZ#180	ND	ND	ug/kg	NC	30
Cl7-BZ#183	ND	ND	ug/kg	NC	30
Cl7-BZ#184	ND	ND	ug/kg	NC	30
Cl7-BZ#187	ND	ND	ug/kg	NC	30
Cl8-BZ#195	ND	ND	ug/kg	NC	30
Cl9-BZ#206	ND	ND	ug/kg	NC	30
Cl10-BZ#209	ND	ND	ug/kg	NC	30

Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits

RIM PAHs/PCB Congeners by GC/MS - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836995-6 QC Sample: L1527873-04 Client ID: COMP BC

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Methylnaphthalene-d10	72		72		30-150
Pyrene-d10	72		72		30-150
Benzo(b)fluoranthene-d12	73		73		30-150
DBOB	88		90		30-150
BZ 198	86		85		30-150

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Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG836995-7

Parameter	% Recovery	Qual	QC Criteria
Phenanthrene	60		40-140
Fluoranthene	66		40-140
Pyrene	53		40-140
Benz(a)anthracene	56		40-140
Chrysene	72		40-140
Benzo(b)fluoranthene	64		40-140
Benzo(k)fluoranthene	96		40-140
Benzo(a)pyrene	48		40-140
Indeno(1,2,3-cd)Pyrene	62		40-140
Dibenz(a,h)anthracene	130		40-140
Benzo(ghi)perylene	59		40-140
Cl2-BZ#8	67		40-140
Cl3-BZ#18	82		40-140
Cl3-BZ#28	47		40-140
Cl4-BZ#44	78		40-140
Cl4-BZ#49	73		40-140
Cl4-BZ#52	69		40-140
Cl4-BZ#66	54		40-140
Cl5-BZ#87	70		40-140
Cl5-BZ#101	77		40-140
Cl5-BZ#105	78		40-140
Cl5-BZ#118	67		40-140
Cl6-BZ#128	101		40-140
Cl6-BZ#138	90		40-140
Cl6-BZ#153	62		40-140
Cl7-BZ#170	93		40-140
Cl7-BZ#180	77		40-140
Cl7-BZ#183	77		40-140
Cl7-BZ#187	90		40-140
Cl9-BZ#206	84		40-140
Cl10-BZ#209	81		40-140
2-Methylnaphthalene-d10 (Surrogate)	68		30-150
Pyrene-d10 (Surrogate)	67		30-150
Benzo(b)fluoranthene-d12 (Surrogate)	67		30-150
DBOB (Surrogate)	85		30-150
BZ 198 (Surrogate)	79		30-150

PESTICIDES

Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-01
Client ID: A
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 11/06/15 19:10
Analyst: SA
Percent Solids: 45%

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
RIM Organochlorine Pesticides - Mansfield Lab							
Hexachlorobenzene	ND		ug/kg	1.04	--	1	A
gamma-BHC	ND		ug/kg	0.523	--	1	A
Heptachlor	ND		ug/kg	0.523	--	1	A
Aldrin	ND		ug/kg	0.523	--	1	A
Heptachlor epoxide	ND		ug/kg	1.04	--	1	B
Oxychlordane	ND		ug/kg	1.04	--	1	B
trans-Chlordane	ND		ug/kg	0.523	--	1	A
Endosulfan I	ND		ug/kg	0.523	--	1	A
cis-Chlordane	ND		ug/kg	0.523	--	1	A
trans-Nonachlor	ND		ug/kg	0.523	--	1	A
4,4'-DDE	ND		ug/kg	0.523	--	1	A
Dieldrin	ND		ug/kg	0.523	--	1	A
Endrin	ND		ug/kg	0.523	--	1	A
Endosulfan II	ND		ug/kg	0.523	--	1	A
4,4'-DDD	ND		ug/kg	0.523	--	1	B
cis-Nonachlor	ND		ug/kg	0.523	--	1	A
4,4'-DDT	ND		ug/kg	0.523	--	1	A
Methoxychlor	ND		ug/kg	5.23	--	1	A
Toxaphene	ND		ug/kg	26.2	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DBOB	40		30-150	A
BZ 198	**186**	Q	30-150	A
DBOB	36		30-150	B
BZ 198	52		30-150	B

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-04
Client ID: COMP BC
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 11/06/15 19:43
Analyst: SA
Percent Solids: 48%

Date Collected: 10/28/15 14:46
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
RIM Organochlorine Pesticides - Mansfield Lab							
Hexachlorobenzene	ND		ug/kg	0.999	--	1	A
gamma-BHC	ND		ug/kg	0.499	--	1	A
Heptachlor	ND		ug/kg	0.499	--	1	A
Aldrin	ND		ug/kg	0.499	--	1	A
Heptachlor epoxide	ND		ug/kg	0.999	--	1	B
Oxychlordane	ND		ug/kg	0.999	--	1	B
trans-Chlordane	ND		ug/kg	0.499	--	1	A
Endosulfan I	ND		ug/kg	0.499	--	1	A
cis-Chlordane	ND		ug/kg	0.499	--	1	A
trans-Nonachlor	ND		ug/kg	0.499	--	1	A
4,4'-DDE	ND		ug/kg	0.499	--	1	A
Dieldrin	ND		ug/kg	0.499	--	1	A
Endrin	ND		ug/kg	0.499	--	1	A
Endosulfan II	ND		ug/kg	0.499	--	1	A
4,4'-DDD	ND		ug/kg	0.499	--	1	B
cis-Nonachlor	ND		ug/kg	0.499	--	1	A
4,4'-DDT	ND		ug/kg	0.499	--	1	A
Methoxychlor	ND		ug/kg	4.99	--	1	A
Toxaphene	ND		ug/kg	25.1	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DBOB	52		30-150	A
BZ 198	126		30-150	A
DBOB	47		30-150	B
BZ 198	68		30-150	B

Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-07
Client ID: COMP DE
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 11/06/15 20:48
Analyst: SA
Percent Solids: 73%

Date Collected: 10/28/15 14:22
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
RIM Organochlorine Pesticides - Mansfield Lab							
Hexachlorobenzene	ND		ug/kg	0.675	--	1	A
gamma-BHC	ND		ug/kg	0.338	--	1	A
Heptachlor	ND		ug/kg	0.338	--	1	A
Aldrin	ND		ug/kg	0.338	--	1	A
Heptachlor epoxide	ND		ug/kg	0.675	--	1	B
Oxychlordane	ND		ug/kg	0.675	--	1	B
trans-Chlordane	ND		ug/kg	0.338	--	1	A
Endosulfan I	ND		ug/kg	0.338	--	1	A
cis-Chlordane	ND		ug/kg	0.338	--	1	A
trans-Nonachlor	ND		ug/kg	0.338	--	1	A
4,4'-DDE	ND		ug/kg	0.338	--	1	A
Dieldrin	ND		ug/kg	0.338	--	1	A
Endrin	ND		ug/kg	0.338	--	1	A
Endosulfan II	ND		ug/kg	0.338	--	1	B
4,4'-DDD	0.814		ug/kg	0.338	--	1	B
cis-Nonachlor	ND		ug/kg	0.338	--	1	A
4,4'-DDT	0.592	IP	ug/kg	0.338	--	1	A
Methoxychlor	3.64	P	ug/kg	3.38	--	1	A
Toxaphene	ND		ug/kg	17.0	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DBOB	55		30-150	A
BZ 198	114		30-150	A
DBOB	47		30-150	B
BZ 198	64		30-150	B

Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10
Client ID: COMP FG
Sample Location: BLUE HILL, ME
Matrix: Soil
Analytical Method: 1,8081B
Analytical Date: 11/06/15 22:27
Analyst: SA
Percent Solids: 72%

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
RIM Organochlorine Pesticides - Mansfield Lab							
Hexachlorobenzene	ND		ug/kg	0.658	--	1	A
gamma-BHC	ND		ug/kg	0.329	--	1	A
Heptachlor	ND		ug/kg	0.329	--	1	A
Aldrin	ND		ug/kg	0.329	--	1	A
Heptachlor epoxide	ND		ug/kg	0.658	--	1	B
Oxychlordane	ND		ug/kg	0.658	--	1	B
trans-Chlordane	ND		ug/kg	0.329	--	1	A
Endosulfan I	ND		ug/kg	0.329	--	1	A
cis-Chlordane	ND		ug/kg	0.329	--	1	A
trans-Nonachlor	ND		ug/kg	0.329	--	1	A
4,4'-DDE	ND		ug/kg	0.329	--	1	A
Dieldrin	ND		ug/kg	0.329	--	1	A
Endrin	ND		ug/kg	0.329	--	1	A
Endosulfan II	ND		ug/kg	0.329	--	1	A
4,4'-DDD	ND		ug/kg	0.329	--	1	B
cis-Nonachlor	ND		ug/kg	0.329	--	1	A
4,4'-DDT	ND		ug/kg	0.329	--	1	A
Methoxychlor	ND		ug/kg	3.29	--	1	A
Toxaphene	ND		ug/kg	16.5	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DBOB	41		30-150	A
BZ 198	**490**	Q	30-150	A
DBOB	35		30-150	B
BZ 198	75		30-150	B

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-12
Client ID: BLANK
Sample Location: BLUE HILL, ME
Matrix: Water
Analytical Method: 1,8081B
Analytical Date: 11/06/15 14:45
Analyst: SA

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified
Extraction Method: EPA 3510C
Extraction Date: 11/02/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
RIM Organochlorine Pesticides - Mansfield Lab							
Hexachlorobenzene	ND		ug/l	0.0021	--	1	A
gamma-BHC	ND		ug/l	0.0005	--	1	A
Heptachlor	ND		ug/l	0.0005	--	1	A
Aldrin	ND		ug/l	0.0010	--	1	A
Heptachlor epoxide	ND		ug/l	0.0005	--	1	B
Oxychlordane	ND		ug/l	0.0005	--	1	B
trans-Chlordane	ND		ug/l	0.0005	--	1	A
Endosulfan I	ND		ug/l	0.0005	--	1	A
cis-Chlordane	ND		ug/l	0.0005	--	1	A
trans-Nonachlor	ND		ug/l	0.0005	--	1	A
4,4'-DDE	ND		ug/l	0.0005	--	1	A
Dieldrin	ND		ug/l	0.0005	--	1	A
Endrin	ND		ug/l	0.0005	--	1	A
Endosulfan II	ND		ug/l	0.0005	--	1	A
4,4'-DDD	ND		ug/l	0.0005	--	1	A
cis-Nonachlor	ND		ug/l	0.0005	--	1	A
4,4'-DDT	ND		ug/l	0.0005	--	1	A
Methoxychlor	ND		ug/l	0.0053	--	1	A
Toxaphene	ND		ug/l	0.0268	--	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
DBOB	52		30-150	A
BZ 198	67		30-150	A
DBOB	50		30-150	B
BZ 198	56		30-150	B

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 11/06/15 12:33
Analyst: SA

Extraction Method: EPA 3510C
Extraction Date: 11/02/15 13:00

Parameter	Result	Qualifier	Units	RL	MDL	Column
RIM Organochlorine Pesticides - Mansfield Lab for sample(s): 12 Batch: WG836523-1						
Hexachlorobenzene	ND		ug/l	0.0020	--	A
gamma-BHC	ND		ug/l	0.0005	--	A
Heptachlor	ND		ug/l	0.0005	--	A
Aldrin	ND		ug/l	0.0010	--	A
trans-Chlordane	ND		ug/l	0.0005	--	A
Endosulfan I	ND		ug/l	0.0005	--	A
cis-Chlordane	ND		ug/l	0.0005	--	A
trans-Nonachlor	ND		ug/l	0.0005	--	A
4,4'-DDE	ND		ug/l	0.0005	--	A
Dieldrin	ND		ug/l	0.0005	--	A
Endrin	ND		ug/l	0.0005	--	A
Endosulfan II	ND		ug/l	0.0005	--	A
4,4'-DDD	ND		ug/l	0.0005	--	A
cis-Nonachlor	ND		ug/l	0.0005	--	A
4,4'-DDT	ND		ug/l	0.0005	--	A
Methoxychlor	ND		ug/l	0.0050	--	A
Toxaphene	ND		ug/l	0.0250	--	A
Heptachlor epoxide	ND		ug/l	0.0005	--	B
Oxychlordane	ND		ug/l	0.0005	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DBOB	68		30-150	A
BZ 198	**164**	Q	30-150	A
DBOB	65		30-150	B
BZ 198	73		30-150	B

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8081B
Analytical Date: 11/06/15 16:58
Analyst: SA

Extraction Method: EPA 3570
Extraction Date: 11/03/15 18:24
Cleanup Method: EPA 3630
Cleanup Date: 11/04/15

Parameter	Result	Qualifier	Units	RL	MDL	Column
RIM Organochlorine Pesticides - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG836998-1						
Hexachlorobenzene	ND		ug/kg	0.500	--	A
gamma-BHC	ND		ug/kg	0.250	--	A
Heptachlor	ND		ug/kg	0.250	--	A
Aldrin	ND		ug/kg	0.250	--	A
trans-Chlordane	ND		ug/kg	0.250	--	A
Endosulfan I	ND		ug/kg	0.250	--	A
cis-Chlordane	ND		ug/kg	0.250	--	A
trans-Nonachlor	ND		ug/kg	0.250	--	A
4,4'-DDE	ND		ug/kg	0.250	--	A
Dieldrin	ND		ug/kg	0.250	--	A
Endrin	ND		ug/kg	0.250	--	A
Endosulfan II	ND		ug/kg	0.250	--	A
4,4'-DDD	ND		ug/kg	0.250	--	A
cis-Nonachlor	ND		ug/kg	0.250	--	A
4,4'-DDT	ND		ug/kg	0.250	--	A
Methoxychlor	ND		ug/kg	2.50	--	A
Toxaphene	ND		ug/kg	12.6	--	A
Heptachlor epoxide	ND		ug/kg	0.500	--	B
Oxychlordane	ND		ug/kg	0.500	--	B

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
DBOB	53		30-150	A
BZ 198	70		30-150	A
DBOB	51		30-150	B
BZ 198	58		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 12 Batch: WG836523-2 WG836523-3									
Hexachlorobenzene	70		76		50-120	8		30	A
gamma-BHC	76		80		50-120	6		30	A
Heptachlor	87		92		50-120	6		30	A
Aldrin	82		86		50-120	5		30	A
trans-Chlordane	89		93		50-120	4		30	A
Endosulfan I	85		89		50-120	4		30	A
cis-Chlordane	86		89		50-120	4		30	A
trans-Nonachlor	89		92		50-120	4		30	A
4,4'-DDE	109		113		50-120	4		30	A
Dieldrin	92		96		50-120	4		30	A
Endrin	97		100		50-120	3		30	A
cis-Nonachlor	85		88		50-120	4		30	A
4,4'-DDT	97		101		50-120	5		30	A
Methoxychlor	110		114		50-120	4		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DBOB	64		68		30-150	A
BZ 198	93		**166**	Q	30-150	A
DBOB	61		66		30-150	B
BZ 198	75		79		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 12 Batch: WG836523-2 WG836523-3									
Heptachlor epoxide	80		85		50-120	5		30	B
Oxychlordane	78		82		50-120	5		30	B
Endosulfan II	84		88		50-120	5		30	B
4,4'-DDD	96		103		50-120	7		30	B

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Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DBOB	64		68		30-150	A
BZ 198	93		**166**	Q	30-150	A
DBOB	61		66		30-150	B
BZ 198	75		79		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG836998-2 WG836998-3									
Hexachlorobenzene	59		62		50-120	5		30	A
gamma-BHC	63		67		50-120	6		30	A
Heptachlor	69		73		50-120	6		30	A
Aldrin	67		70		50-120	4		30	A
trans-Chlordane	72		79		50-120	9		30	A
Endosulfan I	67		74		50-120	10		30	A
cis-Chlordane	69		76		50-120	10		30	A
trans-Nonachlor	70		78		50-120	11		30	A
4,4'-DDE	87		95		50-120	9		30	A
Dieldrin	72		78		50-120	8		30	A
Endrin	73		76		50-120	4		30	A
cis-Nonachlor	69		76		50-120	10		30	A
4,4'-DDT	75		86		50-120	14		30	A
Methoxychlor	68		72		50-120	6		30	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DBOB	54		57		30-150	A
BZ 198	84		**199**	Q	30-150	A
DBOB	52		54		30-150	B
BZ 198	65		72		30-150	B

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG836998-2 WG836998-3									
Heptachlor epoxide	64		70		50-120	9		30	B
Oxychlordane	63		68		50-120	8		30	B
Endosulfan II	63		67		50-120	6		30	B
4,4'-DDD	78		86		50-120	10		30	B

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Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
DBOB	54		57		30-150	A
BZ 198	84		**199**	Q	30-150	A
DBOB	52		54		30-150	B
BZ 198	65		72		30-150	B

Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits	Column
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836998-4 WG836998-5 QC Sample: L1527873-07 Client ID: COMP DE													
Hexachlorobenzene	ND	67	40.7	61		37.2	57		50-120	9		30	A
gamma-BHC	ND	67	45.9	69		42.2	65		50-120	8		30	A
Heptachlor	ND	67	48.3	72		45.0	69		50-120	7		30	A
Aldrin	ND	67	47.5	71		44.1	68		50-120	7		30	A
Heptachlor epoxide	ND	67	38.7	58		37.8	58		50-120	2		30	B
Oxychlordane	ND	67	42.4	63		40.0	61		50-120	6		30	B
trans-Chlordane	ND	67	50.7	76		48.6	75		50-120	4		30	A
Endosulfan I	ND	67	48.7	73		46.4	71		50-120	5		30	A
cis-Chlordane	ND	67	48.0	72		45.8	70		50-120	5		30	A
trans-Nonachlor	ND	67	49.0	73		46.4	71		50-120	5		30	A
4,4'-DDE	ND	67	60.7	91		57.8	89		50-120	5		30	A
Dieldrin	ND	67	49.0	73		47.2	72		50-120	4		30	A
Endrin	ND	67	54.7	82		52.6	81		50-120	4		30	A
Endosulfan II	ND	67	42.5IP	63		40.7IP	62		50-120	4		30	B
4,4'-DDD	0.814	67	52.0	76		50.5	76		50-120	3		30	B
cis-Nonachlor	ND	67	47.9I	72		45.8I	70		50-120	4		30	A
4,4'-DDT	0.592	67	55.9IP	83		52.5IP	80		50-120	6		30	A
Methoxychlor	3.64	67	70.2	99		67.0	97		50-120	5		30	A

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Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836998-4 WG836998-5 QC Sample: L1527873-07 Client ID: COMP DE												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria	Column
BZ 198	**242**	Q	**492**	Q	30-150	A
DBOB	57		52		30-150	A
BZ 198	63		67		30-150	B
DBOB	48		43		30-150	B

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Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
RIM Organochlorine Pesticides - Mansfield Lab COMP BC	Associated sample(s): 01,04,07,10	QC Batch ID: WG836998-6	QC Sample: L1527873-04	Client ID:			
Hexachlorobenzene	ND	ND	ug/kg	NC		30	A
gamma-BHC	ND	ND	ug/kg	NC		30	A
Heptachlor	ND	ND	ug/kg	NC		30	A
Aldrin	ND	ND	ug/kg	NC		30	A
Heptachlor epoxide	ND	ND	ug/kg	NC		30	B
Oxychlordane	ND	ND	ug/kg	NC		30	B
trans-Chlordane	ND	ND	ug/kg	NC		30	A
Endosulfan I	ND	ND	ug/kg	NC		30	A
cis-Chlordane	ND	ND	ug/kg	NC		30	A
trans-Nonachlor	ND	ND	ug/kg	NC		30	A
4,4'-DDE	ND	ND	ug/kg	NC		30	A
Dieldrin	ND	ND	ug/kg	NC		30	A
Endrin	ND	ND	ug/kg	NC		30	A
Endosulfan II	ND	ND	ug/kg	NC		30	A
4,4'-DDD	ND	ND	ug/kg	NC		30	B
cis-Nonachlor	ND	ND	ug/kg	NC		30	A
4,4'-DDT	ND	ND	ug/kg	NC		30	A
Methoxychlor	ND	ND	ug/kg	NC		30	A
Toxaphene	ND	ND	ug/kg	NC		30	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits

RIM Organochlorine Pesticides - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG836998-6 QC Sample: L1527873-04 Client ID: COMP BC

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria	Column
DBOB	52		47		30-150	A
BZ 198	126		108		30-150	A
DBOB	47		43		30-150	B
BZ 198	68		61		30-150	B

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Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG836998-7

Parameter	% Recovery	Qual	QC Criteria
Hexachlorobenzene	83		40-140
cis-Chlordane	109		40-140
trans-Nonachlor	449	Q	40-140
DBOB (Surrogate)	59		30-150
DBOB (Surrogate)	68		30-150
BZ 198 (Surrogate)	54		30-150
BZ 198 (Surrogate)	240	Q	30-150

METALS

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-01
Client ID: A
Sample Location: BLUE HILL, ME
Matrix: Soil
Percent Solids: 45%

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.51		mg/kg	0.053	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Cadmium, Total	0.644		mg/kg	0.021	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Chromium, Total	21.1		mg/kg	0.212	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Copper, Total	17.6		mg/kg	0.212	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Lead, Total	21.7		mg/kg	0.064	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Mercury, Total	0.033		mg/kg	0.029	--	5	11/11/15 18:08	11/13/15 12:32	EPA 7474	1,7474	LC
Nickel, Total	15.6		mg/kg	0.106	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB
Zinc, Total	54.2		mg/kg	1.06	--	2	11/12/15 08:42	11/13/15 11:49	EPA 3050B	1,6020A	DB

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-04
Client ID: COMP BC
Sample Location: BLUE HILL, ME
Matrix: Soil
Percent Solids: 48%

Date Collected: 10/28/15 14:46
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	7.69		mg/kg	0.061	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB
Cadmium, Total	0.833		mg/kg	0.024	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB
Chromium, Total	30.9		mg/kg	0.242	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB
Copper, Total	16.5		mg/kg	0.242	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB
Lead, Total	21.8		mg/kg	0.363	--	10	11/12/15 08:42	11/13/15 12:12	EPA 3050B	1,6020A	DB
Mercury, Total	0.029		mg/kg	0.028	--	5	11/11/15 18:08	11/13/15 12:34	EPA 7474	1,7474	LC
Nickel, Total	23.6		mg/kg	0.121	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB
Zinc, Total	64.1		mg/kg	1.21	--	2	11/12/15 08:42	11/13/15 11:54	EPA 3050B	1,6020A	DB

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-07
Client ID: COMP DE
Sample Location: BLUE HILL, ME
Matrix: Soil
Percent Solids: 73%

Date Collected: 10/28/15 14:22
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	5.24		mg/kg	0.039	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Cadmium, Total	0.120		mg/kg	0.016	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Chromium, Total	12.3		mg/kg	0.155	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Copper, Total	14.3		mg/kg	0.155	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Lead, Total	23.0		mg/kg	0.047	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Mercury, Total	0.017		mg/kg	0.016	--	5	11/11/15 18:08	11/13/15 12:45	EPA 7474	1,7474	LC
Nickel, Total	10.3		mg/kg	0.078	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB
Zinc, Total	40.6		mg/kg	0.775	--	2	11/12/15 08:42	11/13/15 11:59	EPA 3050B	1,6020A	DB

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10
Client ID: COMP FG
Sample Location: BLUE HILL, ME
Matrix: Soil
Percent Solids: 72%

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	6.32		mg/kg	0.039	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Cadmium, Total	0.161		mg/kg	0.016	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Chromium, Total	10.8		mg/kg	0.156	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Copper, Total	6.90		mg/kg	0.156	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Lead, Total	10.5		mg/kg	0.047	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Mercury, Total	ND		mg/kg	0.015	--	5	11/11/15 18:08	11/13/15 12:48	EPA 7474	1,7474	LC
Nickel, Total	9.40		mg/kg	0.078	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB
Zinc, Total	37.9		mg/kg	0.779	--	2	11/12/15 08:42	11/13/15 12:00	EPA 3050B	1,6020A	DB

Project Name: BLUE HILL HARBOR
Lab Number: L1527873
Project Number: Not Specified
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-12
Client ID: BLANK
Sample Location: BLUE HILL, ME
Matrix: Water
Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	0.00169		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:30	EPA 3020A	1,6020A	DB
Cadmium, Total	ND		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:30	EPA 3020A	1,6020A	DB
Chromium, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 12:30	EPA 3020A	1,6020A	DB
Copper, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 13:36	EPA 3020A	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 13:36	EPA 3020A	1,6020A	DB
Mercury, Total	ND		mg/l	0.00010	--	1	11/11/15 14:28	11/13/15 15:09	EPA 7474	1,7474	LC
Nickel, Total	ND		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:30	EPA 3020A	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	--	1	11/11/15 12:21	11/13/15 12:30	EPA 3020A	1,6020A	DB

Project Name: BLUE HILL HARBOR **Lab Number:** L1527873

Project Number: Not Specified **Report Date:** 11/19/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG839582-1										
Arsenic, Total	ND		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:21	1,6020A	DB
Cadmium, Total	ND		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:21	1,6020A	DB
Chromium, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 12:21	1,6020A	DB
Copper, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 13:22	1,6020A	DB
Lead, Total	ND		mg/l	0.00100	--	1	11/11/15 12:21	11/13/15 13:22	1,6020A	DB
Nickel, Total	ND		mg/l	0.00050	--	1	11/11/15 12:21	11/13/15 12:21	1,6020A	DB
Zinc, Total	ND		mg/l	0.0100	--	1	11/11/15 12:21	11/13/15 12:21	1,6020A	DB

Prep Information

Digestion Method: EPA 3020A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 12 Batch: WG839590-1										
Mercury, Total	ND		mg/l	0.00010	--	1	11/11/15 14:28	11/13/15 14:54	1,7474	LC

Prep Information

Digestion Method: EPA 7474

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG839676-1										
Arsenic, Total	ND		mg/kg	0.050	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Cadmium, Total	ND		mg/kg	0.020	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Chromium, Total	ND		mg/kg	0.200	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Copper, Total	ND		mg/kg	0.200	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Lead, Total	ND		mg/kg	0.060	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Nickel, Total	ND		mg/kg	0.100	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB
Zinc, Total	ND		mg/kg	1.00	--	2	11/12/15 08:42	11/13/15 11:31	1,6020A	DB

Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG839678-1										
Mercury, Total	ND		mg/kg	0.013	--	5	11/11/15 18:08	11/13/15 11:38	1,7474	LC

Prep Information

Digestion Method: EPA 7474

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR

Project Number: Not Specified

Lab Number: L1527873

Report Date: 11/19/15

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG839582-2 SRM Lot Number: A2METSPIKE								
Arsenic, Total	99		-		80-120	-		20
Cadmium, Total	102		-		80-120	-		20
Chromium, Total	103		-		80-120	-		20
Copper, Total	102		-		80-120	-		20
Lead, Total	110		-		80-120	-		20
Nickel, Total	99		-		80-120	-		20
Zinc, Total	97		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 12 Batch: WG839590-2 SRM Lot Number: HPHGAF								
Mercury, Total	100		-		80-120	-		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG839676-2 SRM Lot Number: ERA-D088								
Arsenic, Total	97		-		79-121	-		20
Cadmium, Total	99		-		83-117	-		20
Chromium, Total	95		-		80-120	-		20
Copper, Total	98		-		81-118	-		20
Lead, Total	93		-		81-117	-		20
Nickel, Total	101		-		83-117	-		20
Zinc, Total	94		-		82-118	-		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 Batch: WG839678-2 SRM Lot Number: ERA-D088					
Mercury, Total	106	-	72-128	-	20

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Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG839582-4 WG839582-5 QC Sample: L1527184-09 Client ID: MS Sample												
Arsenic, Total	0.00164	1	0.9932	99		0.9857	98		75-125	1		20
Cadmium, Total	ND	0.5	0.5095	102		0.5200	104		75-125	2		20
Chromium, Total	0.00148	1	1.02	102		1.04	104		75-125	2		20
Copper, Total	0.00271	1	1.06	106		1.10	110		75-125	4		20
Lead, Total	ND	1	1.08	108		1.10	110		75-125	2		20
Nickel, Total	0.00106	1	0.9913	99		0.9986	100		75-125	1		20
Zinc, Total	0.0132	1	0.985	97		0.998	98		75-125	1		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG839590-4 WG839590-5 QC Sample: L1527873-12 Client ID: BLANK												
Mercury, Total	ND	0.005	0.00481	96		0.00476	95		80-120	1		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-4 WG839676-5 QC Sample: L1527184-08 Client ID: MS Sample												
Arsenic, Total	11.5	215	227	100		226	100		75-125	0		20
Cadmium, Total	29.9	107	135	98		136	99		75-125	1		20
Chromium, Total	307	215	516	97		515	97		75-125	0		20
Copper, Total	593	215	795	96		837	115		75-125	5		20
Lead, Total	246	215	455	115		502	**137**	Q	75-125	10		20
Nickel, Total	65.8	215	272	96		280	100		75-125	3		20
Zinc, Total	760	215	915	75		961	96		75-125	5		20

Matrix Spike Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-7 WG839676-8 QC Sample: L1527873-04 Client ID: COMP BC									
Arsenic, Total	7.69	257	270	102	267	101	75-125	1	20
Cadmium, Total	0.833	129	129	100	129	100	75-125	0	20
Chromium, Total	30.9	257	277	96	286	99	75-125	3	20
Copper, Total	16.5	257	252	91	259	94	75-125	3	20
Lead, Total	21.8	257	263	95	264	96	75-125	14	20
Nickel, Total	23.6	257	269	95	272	96	75-125	1	20
Zinc, Total	64.1	257	290	87	297	90	75-125	2	20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839678-4 WG839678-5 QC Sample: L1527184-08 Client ID: MS Sample									
Mercury, Total	0.607	1.12	1.68	95	1.63	89	80-120	3	20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839678-7 WG839678-8 QC Sample: L1527873-04 Client ID: COMP BC									
Mercury, Total	0.029	1.3	1.17	88	1.27	106	80-120	8	20

Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG839582-3 QC Sample: L1527184-09 Client ID: DUP Sample						
Arsenic, Total	0.00164	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Chromium, Total	0.00148	0.00226	mg/l	**42**	Q	20
Nickel, Total	0.00106	0.00099	mg/l	7		20
Zinc, Total	0.0132	0.0156	mg/l	17		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG839582-3 QC Sample: L1527184-09 Client ID: DUP Sample						
Copper, Total	0.00271	0.00428	mg/l	**46**	Q	20
Lead, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 12 QC Batch ID: WG839590-3 QC Sample: L1527873-12 Client ID: BLANK						
Mercury, Total	ND	ND	mg/l	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-3 QC Sample: L1527184-08 Client ID: DUP Sample						
Arsenic, Total	11.5	11.3	mg/kg	2		20
Cadmium, Total	29.9	29.7	mg/kg	1		20
Chromium, Total	307	308	mg/kg	0		20
Nickel, Total	65.8	65.6	mg/kg	0		20

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Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD		RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-3 QC Sample: L1527184-08 Client ID: DUP Sample						
Copper, Total	593	582	mg/kg	1		20
Lead, Total	246	240	mg/kg	14		20
Zinc, Total	760	720	mg/kg	5		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-6 QC Sample: L1527873-04 Client ID: COMP BC						
Arsenic, Total	7.69	7.88	mg/kg	0		20
Cadmium, Total	0.833	0.809	mg/kg	7		20
Chromium, Total	30.9	31.3	mg/kg	1		20
Copper, Total	16.5	15.2	mg/kg	13		20
Nickel, Total	23.6	23.8	mg/kg	1		20
Zinc, Total	64.1	64.7	mg/kg	2		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839676-6 QC Sample: L1527873-04 Client ID: COMP BC						
Lead, Total	21.8	21.7	mg/kg	0		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839678-3 QC Sample: L1527184-08 Client ID: DUP Sample						
Mercury, Total	0.607	0.593	mg/kg	2		20
Total Metals - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG839678-6 QC Sample: L1527873-04 Client ID: COMP BC						
Mercury, Total	0.029	0.078	mg/kg	**91**	Q	20

INORGANICS
&
MISCELLANEOUS

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-01
Client ID: A
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:53
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	8.58		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
Total Organic Carbon (Rep2)	8.06		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	0.100		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	2.20		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	6.60		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	21.6		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	69.5		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	44.7		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	55.3		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-02
Client ID: B
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:46
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	ND		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	1.70		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	3.50		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	7.40		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	87.4		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	48.8		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	51.2		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-03
Client ID: C
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:33
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	1.10		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	1.90		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	4.90		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	12.1		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	80.0		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	45.5		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	54.5		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-04
Client ID: COMP BC
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:46
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	3.52		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
Total Organic Carbon (Rep2)	3.95		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
General Chemistry - Mansfield Lab										
Solids, Total	48.0		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	52.0		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-05
Client ID: D
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:22
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	4.40		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	13.2		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	34.8		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	35.0		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	12.6		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	80.4		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	19.6		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-06
Client ID: E
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:13
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	1.80		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	8.80		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	26.7		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	37.9		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	24.8		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	66.8		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	33.2		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-07
Client ID: COMP DE
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:22
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	1.99		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
Total Organic Carbon (Rep2)	1.53		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
General Chemistry - Mansfield Lab										
Solids, Total	73.3		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	26.7		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-08
Client ID: F
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	5.00		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	14.0		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	30.6		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	29.8		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	20.6		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	73.2		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	26.8		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-09
Client ID: G
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 13:43
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
RIM Grain Size Analysis - Mansfield Lab										
% Total Gravel	45.9		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Coarse Sand	12.4		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Medium Sand	16.7		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Fine Sand	16.2		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
% Total Fines	8.80		%	0.100	NA	1	-	11/19/15 00:00	12,D422	JN
General Chemistry - Mansfield Lab										
Solids, Total	78.6		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	21.4		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

SAMPLE RESULTS

Lab ID: L1527873-10
Client ID: COMP FG
Sample Location: BLUE HILL, ME
Matrix: Soil

Date Collected: 10/28/15 14:00
Date Received: 10/29/15
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab										
Total Organic Carbon (Rep1)	0.921		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
Total Organic Carbon (Rep2)	0.845		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
General Chemistry - Mansfield Lab										
Solids, Total	71.7		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN
Moisture	28.3		%	0.100	--	1	-	11/18/15 19:37	30,2540G	JN

Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Organic Carbon - Mansfield Lab for sample(s): 01,04,07,10 Batch: WG842407-1										
Total Organic Carbon (Rep1)	ND		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM
Total Organic Carbon (Rep2)	ND		%	0.010	--	1	-	11/18/15 12:51	1,9060A	CM

Lab Duplicate Analysis
Batch Quality Control

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG841411-1 QC Sample: L1527873-03 Client ID: C						
Solids, Total	45.5	45.7	%	0		10
Moisture	54.5	54.3	%	0		10
General Chemistry - Mansfield Lab Associated sample(s): 01-10 QC Batch ID: WG841411-2 QC Sample: L1527873-04 Client ID: COMP BC						
Solids, Total	48.0	47.7	%	1		10
Moisture	52	52.3	%	1		10
Total Organic Carbon - Mansfield Lab Associated sample(s): 01,04,07,10 QC Batch ID: WG842407-3 QC Sample: L1527873-04 Client ID: COMP BC						
Total Organic Carbon (Rep1)	3.52	3.46	%	2		25
Total Organic Carbon (Rep2)	3.95	3.52	%	12		25
RIM Grain Size Analysis - Mansfield Lab Associated sample(s): 01-03,05-06,08-09 QC Batch ID: WG842455-1 QC Sample: L1527873-03 Client ID: C						
% Total Gravel	1.10	ND	%	NC		25
% Coarse Sand	1.90	1.30	%	**38**	Q	25
% Medium Sand	4.90	4.80	%	2		25
% Fine Sand	12.1	11.4	%	6		25
% Total Fines	80.0	82.5	%	3		25

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Project Name: BLUE HILL HARBOR
Project Number: Not Specified
Lab Number: L1527873
Report Date: 11/19/15

S.R.M. Standard Quality Control

Standard Reference Material (SRM): WG842407-2

Parameter	% Recovery	Qual	QC Criteria
Total Organic Carbon (Rep1)	106		75-125
Total Organic Carbon (Rep2)	124		75-125

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1527873-01A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-01B	Glass 250ml/8oz unpreserved	A	N/A	5.4	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)
L1527873-02A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-03A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-03B	Glass 60mL/2oz unpreserved	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()

*Values in parentheses indicate holding time in days

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1527873-04A	Glass 250ml/8oz unpreserved	A	N/A	5.4	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)
L1527873-05A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-06A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-07A	Glass 250ml/8oz unpreserved	A	N/A	5.4	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)
L1527873-08A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()
L1527873-09A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	A2-RIMHYDRO-CSAND(),A2-MOISTURE-2540(7),A2-RIMHYDRO-MSAND(),A2-RIMHYDRO-TFINE(),A2-TS(7),A2-RIMHYDRO-TGRAVEL(),A2-RIMHYDRO-FSAND()

*Values in parentheses indicate holding time in days

Project Name: BLUE HILL HARBOR
Project Number: Not Specified

Lab Number: L1527873
Report Date: 11/19/15

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1527873-10A	Glass 250ml/8oz unpreserved	A	N/A	5.4	Y	Absent	A2-PB-6020T(180),A2-RIM-PAH/PCBCONG(14),A2-MOISTURE-2540(7),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-TS(7),A2-AS-6020T(180),A2-CD-6020T(180),A2-HGPREP-AF(28),A2-PREP-3050:2T(180),A2-TOC-9060-2REPS(28),A2-CU-6020T(180),A2-RIM-PEST-8081(14)
L1527873-11A	Plastic 8oz unpreserved for Grai	A	N/A	5.4	Y	Absent	-
L1527873-12A	Plastic 500ml HNO3 preserved	A	<2	5.4	Y	Absent	A2-PB-6020T(180),A2-NI-6020T(180),A2-ZN-6020T(180),A2-HG-7474T(28),A2-CR-6020T(180),A2-AS-6020T(180),A2-CD-6020T(180),A2-CU-6020T(180)
L1527873-12B	Amber 1000ml unpreserved	A	7	5.4	Y	Absent	A2-RIM-PAH/PCBCONG(7)
L1527873-12C	Amber 1000ml unpreserved	A	7	5.4	Y	Absent	A2-RIM-PAH/PCBCONG(7)
L1527873-12D	Amber 1000ml unpreserved	A	7	5.4	Y	Absent	A2-RIM-PEST-8081(7)
L1527873-12E	Amber 1000ml unpreserved	A	7	5.4	Y	Absent	A2-RIM-PEST-8081(7)

*Values in parentheses indicate holding time in days

Project Name:	BLUE HILL HARBOR	**Lab Number:**	L1527873
Project Number:	Not Specified	**Report Date:**	11/19/15

GLOSSARY

Acronyms

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).

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.

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.

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.

NI - Not Ignitable.

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

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.

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.

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

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.

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.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

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).

Report Format: Data Usability Report

Project Name:	BLUE HILL HARBOR	**Lab Number:**	L1527873
Project Number:	Not Specified	**Report Date:**	11/19/15

Data Qualifiers

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.

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.

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

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.

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

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

Report Format: Data Usability Report

Project Name:	BLUE HILL HARBOR	**Lab Number:**	L1527873
Project Number:	Not Specified	**Report Date:**	11/19/15

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IV, 2007.

12 Annual Book of ASTM Standards. (American Society for Testing and Materials) ASTM International.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

105 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - IIIA, 1997 in conjunction with NOAA Technical Memorandum NMFS-NWFSC-59: Extraction, Cleanup and GC/MS Analysis of Sediments and Tissues for Organic Contaminants, March 2004 and the Determination of Pesticides and PCBs in Water and Oil/Sediment by GC/MS: Method 680, EPA 01A0005295, November 1985.

LIMITATION OF LIABILITIES

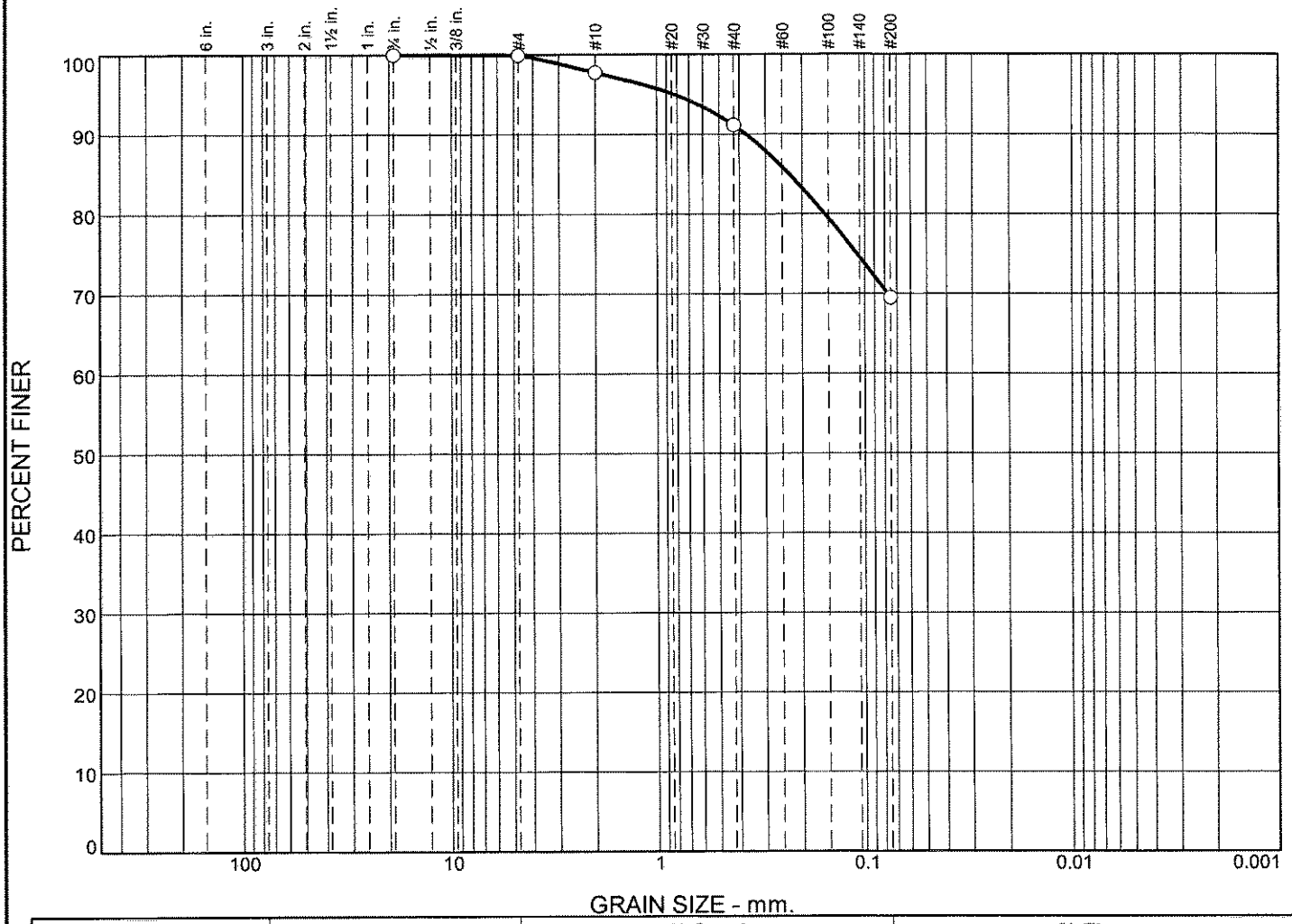
Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held 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.

ASTM D422-63

GRAIN SIZE ANALYSIS

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.1	2.2	6.6	21.6	69.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.2313							

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** A **Sample Number:** L1527873-01

Remarks:

Alpha Analytical
F-124
Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: A

Sample Number: L1527873-01

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
39.77	0.00	0.75	0.00	0.00	100.0
		#4	0.03	0.00	99.9
		#10	0.87	0.00	97.7
		#40	2.63	0.00	91.1
		#200	8.59	0.00	69.5

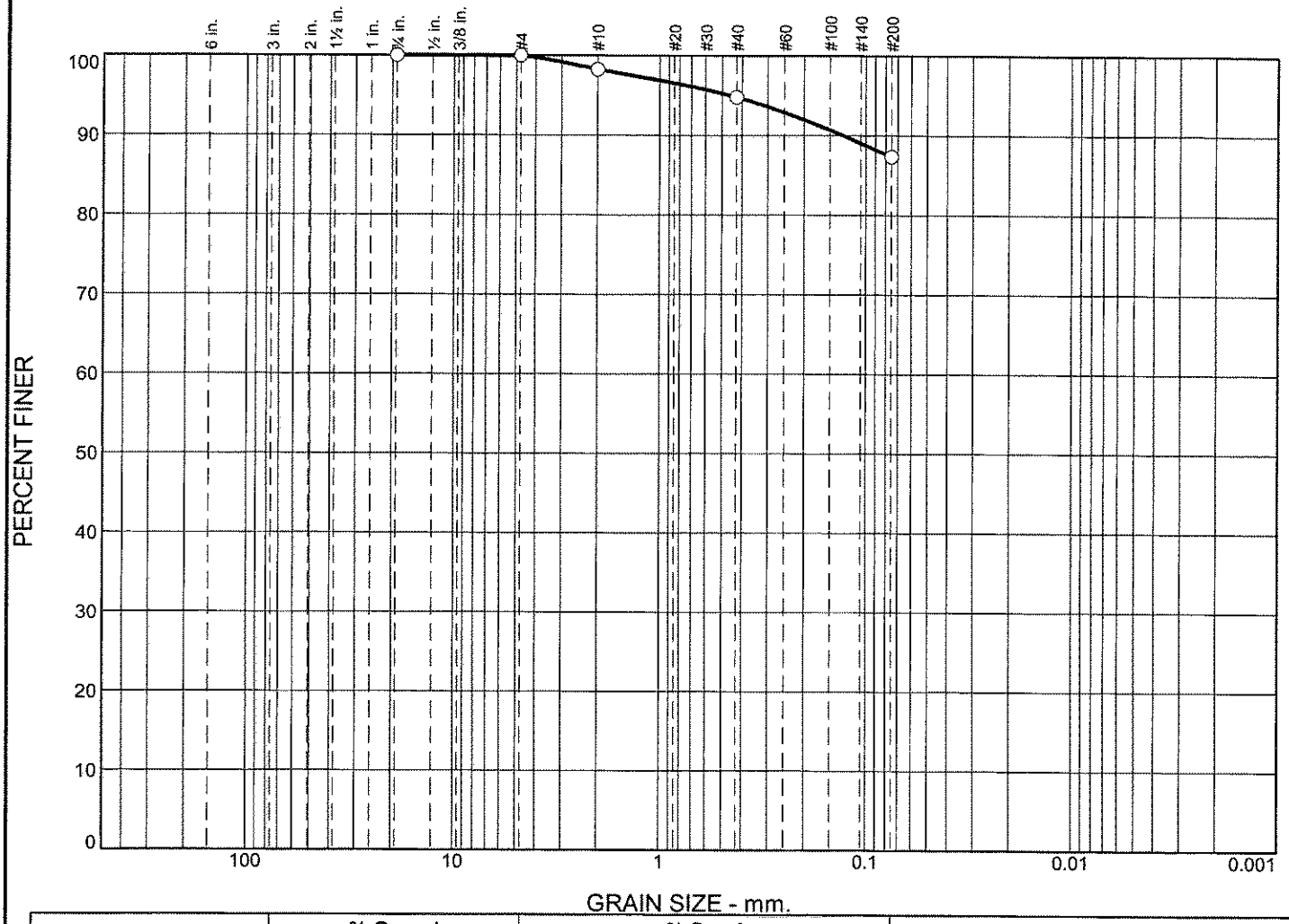
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.1	0.1	2.2	6.6	21.6	30.4			69.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.1562	0.2313	0.3724	0.8229

Fineness Modulus
0.45

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	1.7	3.5	7.4	87.4	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○										

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** B **Sample Number:** L1527873-02

Remarks:

Alpha Analytical

Mansfield, MA

F-126

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: B

Sample Number: L1527873-02

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
48.98	0.00	0.75	0.00	0.00	100.0
		#4	0.00	0.00	100.0
		#10	0.85	0.00	98.3
		#40	1.70	0.00	94.8
		#200	3.64	0.00	87.4

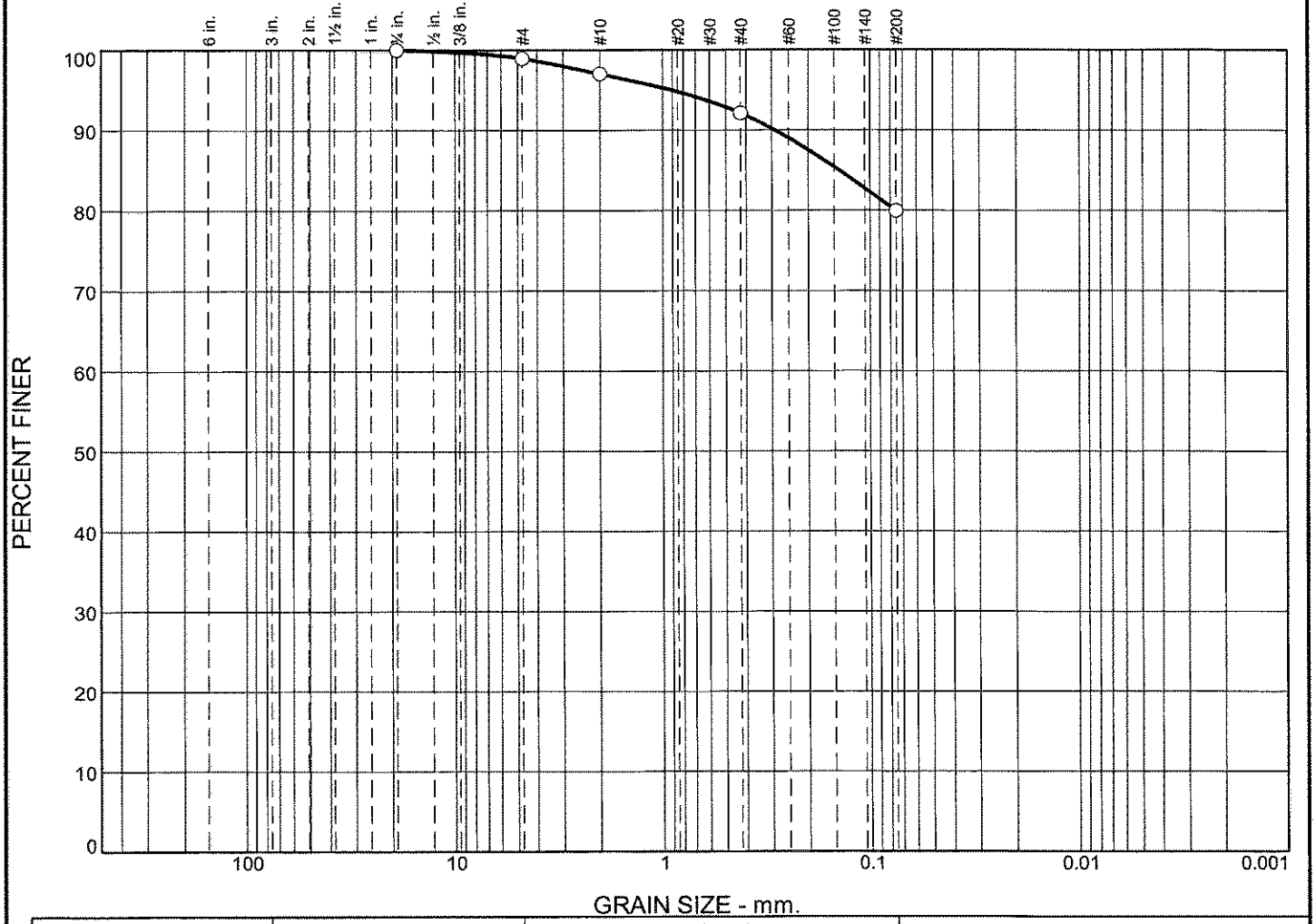
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	1.7	3.5	7.4	12.6			87.4

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
								0.1296	0.4551

Fineness Modulus
0.24

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.1	1.9	4.9	12.1	80.0	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.1418							

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** C **Sample Number:** L1527873-03

Remarks:

Alpha Analytical
F-128
Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: C

Sample Number: L1527873-03

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
49.62	0.00	0.75	0.00	0.00	100.0
		#4	0.53	0.00	98.9
		#10	0.95	0.00	97.0
		#40	2.43	0.00	92.1
		#200	6.03	0.00	80.0

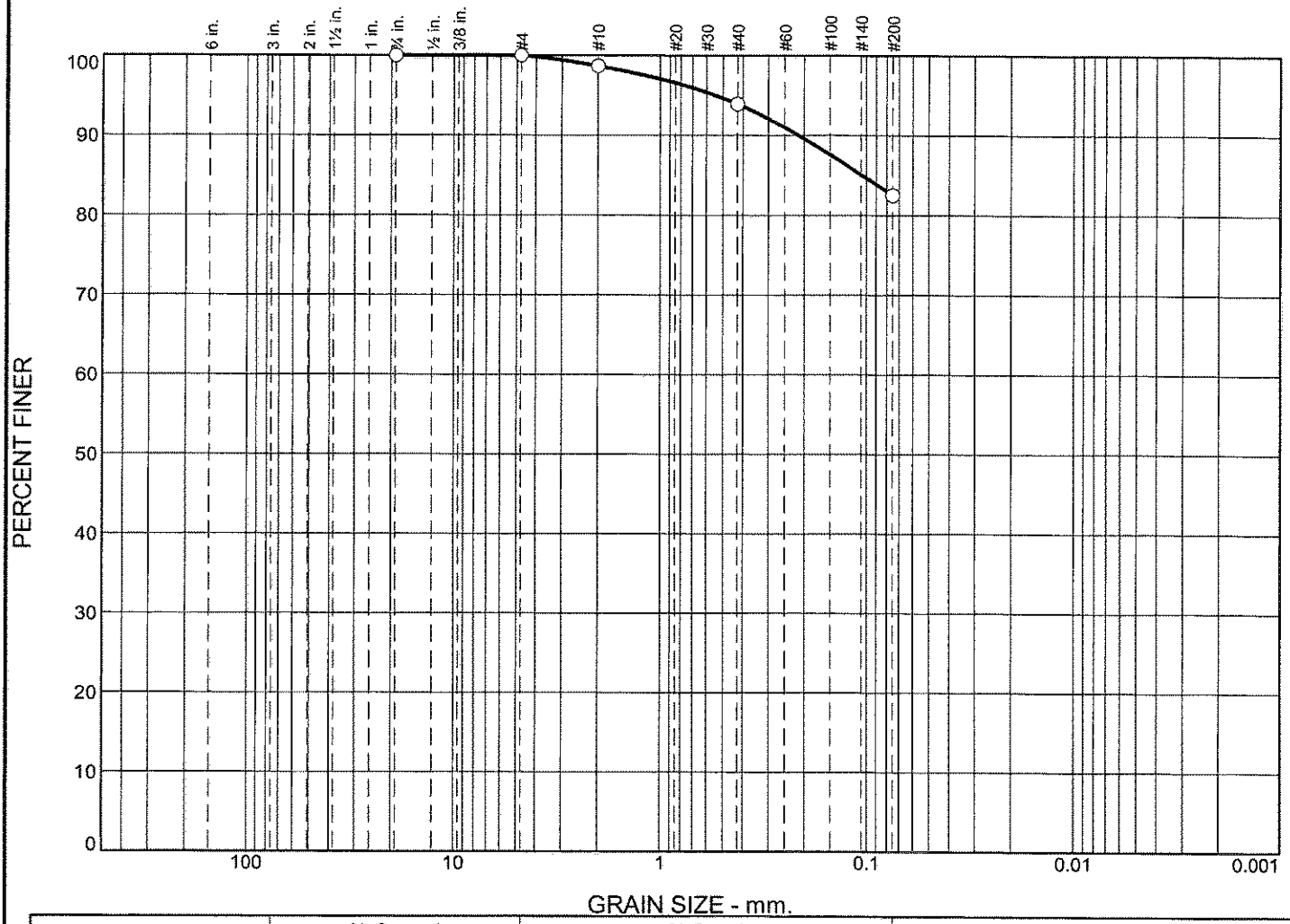
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.1	1.1	1.9	4.9	12.1	18.9			80.0

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
						0.0753	0.1418	0.2903	0.9040

Fineness Modulus
0.39

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.0	1.3	4.8	11.4	82.5	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.1046							

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** C **Sample Number:** WG842455-1

Remarks:

Alpha Analytical

F-130

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: C

Sample Number: WG842455-1

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
48.94	0.00	0.75	0.00	0.00	100.0
		#4	0.00	0.00	100.0
		#10	0.65	0.00	98.7
		#40	2.32	0.00	93.9
		#200	5.58	0.00	82.5

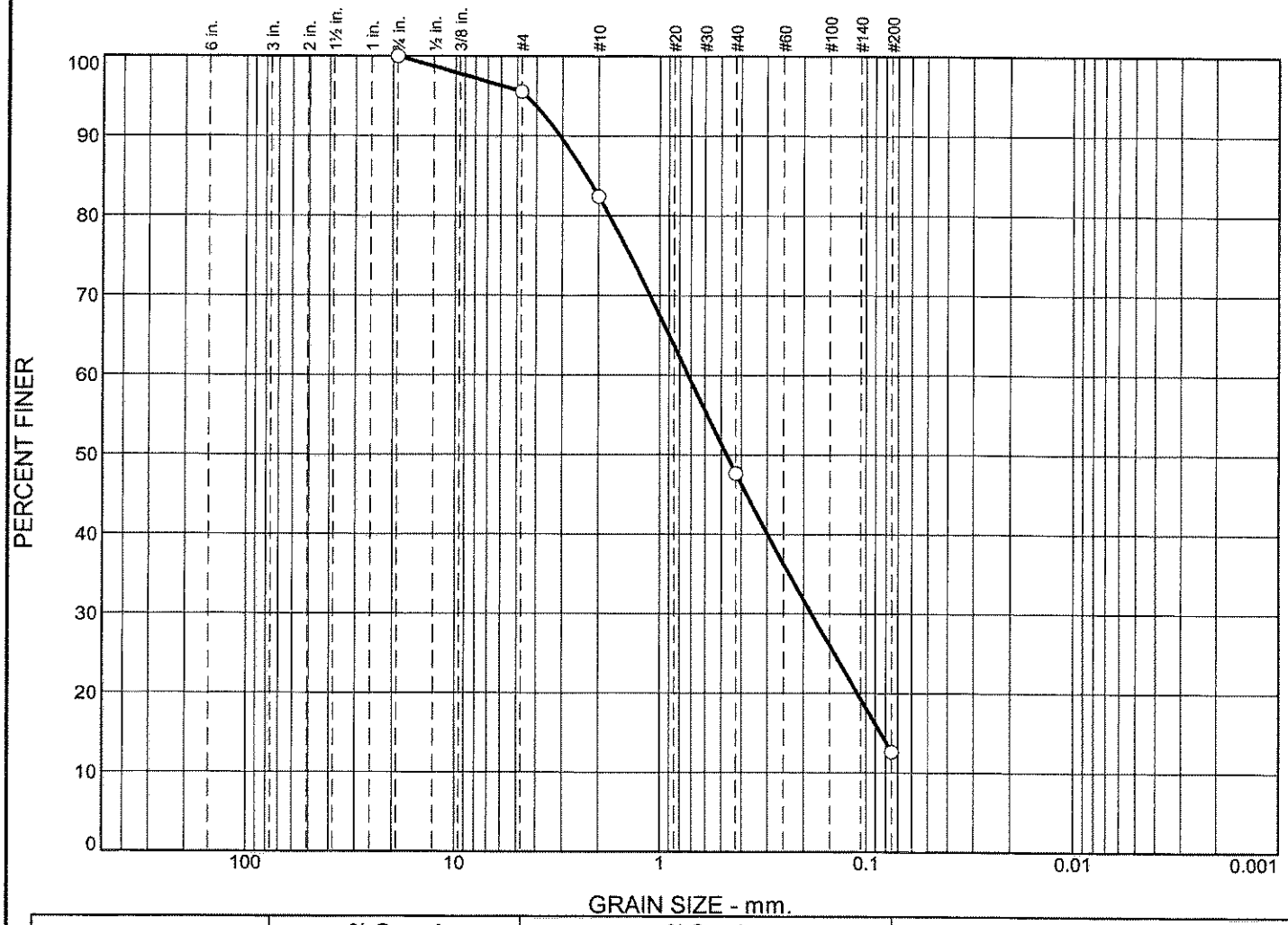
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	0.0	0.0	1.3	4.8	11.4	17.5			82.5

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
							0.1046	0.2136	0.5407

Fineness Modulus
0.28

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	4.4	13.2	34.8	35.0	12.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.2939	0.7257	0.4718	0.1839	0.0849			

	Material Description	USCS	AASHTO
○			

Project No. **Client:**

Project:

○ **Source of Sample:** D **Sample Number:** L1527873-05

Remarks:

Alpha Analytical
Mansfield, MA

F-132

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: D

Sample Number: L1527873-05

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
84.78	0.00	0.75	0.00	0.00	100.0
		#4	3.77	0.00	95.6
		#10	11.15	0.00	82.4
		#40	29.47	0.00	47.6
		#200	29.67	0.00	12.6

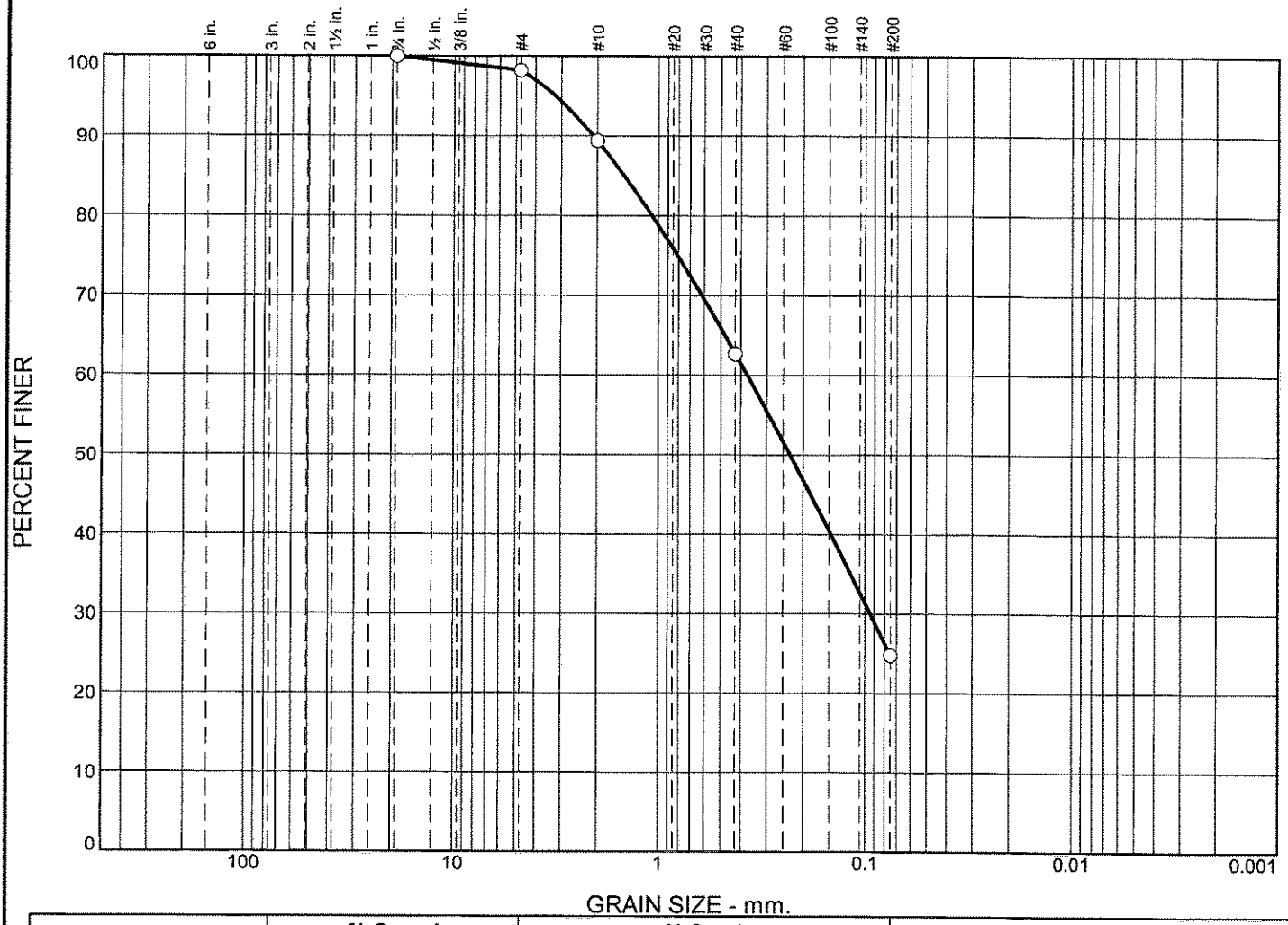
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	4.4	4.4	13.2	34.8	35.0	83.0			12.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
	0.0849	0.1102	0.1839	0.4718	0.7257	1.7731	2.2939	3.0796	4.5017

Fineness Modulus
2.28

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.8	8.8	26.7	37.9	24.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			1.4714	0.3727	0.2322	0.0943				

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** E **Sample Number:** L1527873-06

Remarks:

Alpha Analytical

F-134

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: E

Sample Number: L1527873-06

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
71.86	0.00	0.75	0.00	0.00	100.0
		#4	1.30	0.00	98.2
		#10	6.32	0.00	89.4
		#40	19.20	0.00	62.7
		#200	27.21	0.00	24.8

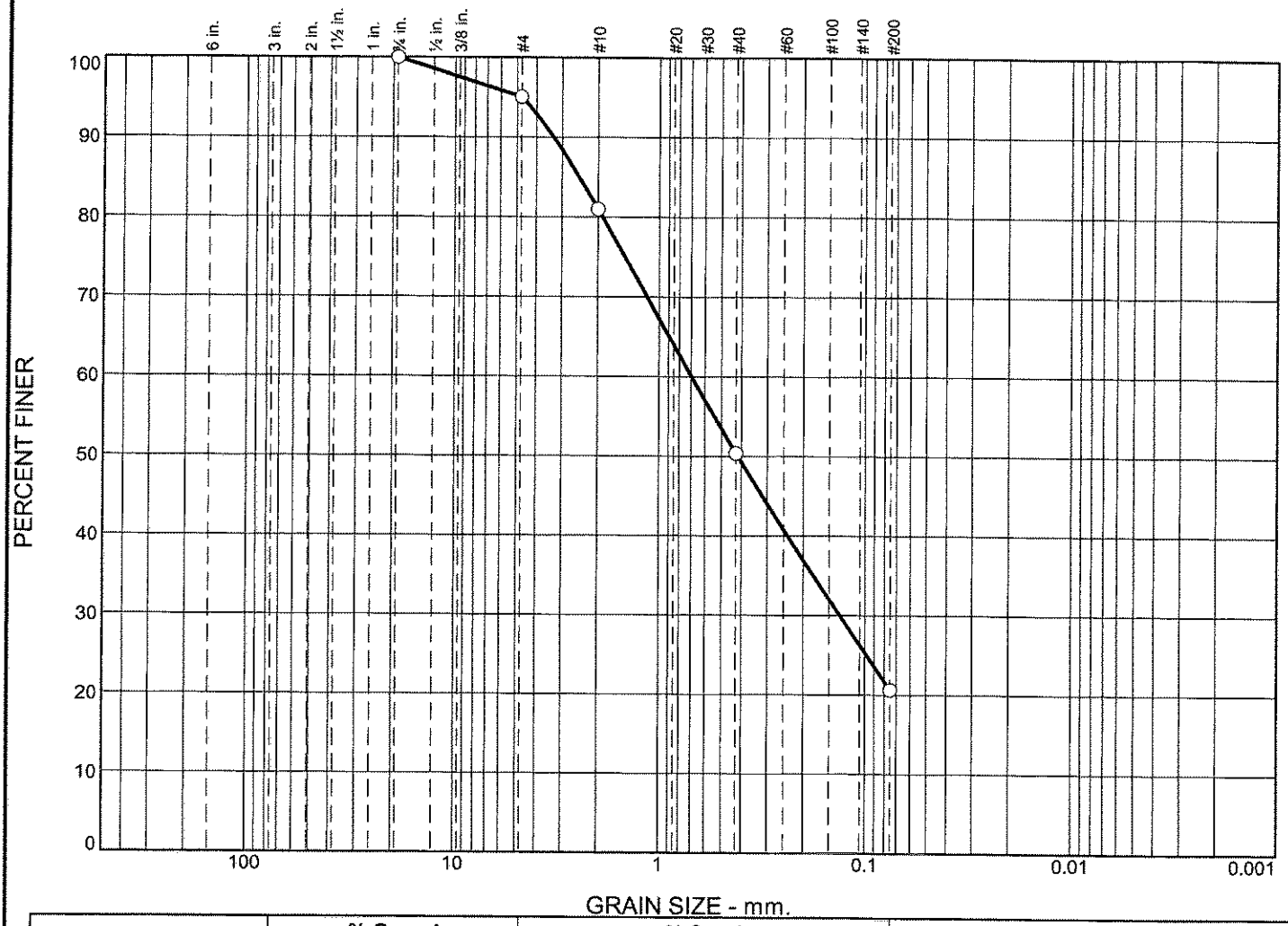
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	1.8	1.8	8.8	26.7	37.9	73.4			24.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.0943	0.2322	0.3727	1.0762	1.4714	2.0929	3.2147

Fineness Modulus
1.64

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	5.0	14.0	30.6	29.8	20.6	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			2.4729	0.6978	0.4170	0.1329				

Material Description	USCS	AASHTO
○		

Project No. **Client:**

Project:

○ **Source of Sample:** F **Sample Number:** L1527873-08

Remarks:

Alpha Analytical

F-136

Mansfield, MA

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: F

Sample Number: L1527873-08

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
75.56	0.00	0.75	0.00	0.00	100.0
		#4	3.75	0.00	95.0
		#10	10.62	0.00	81.0
		#40	23.14	0.00	50.4
		#200	22.45	0.00	20.6

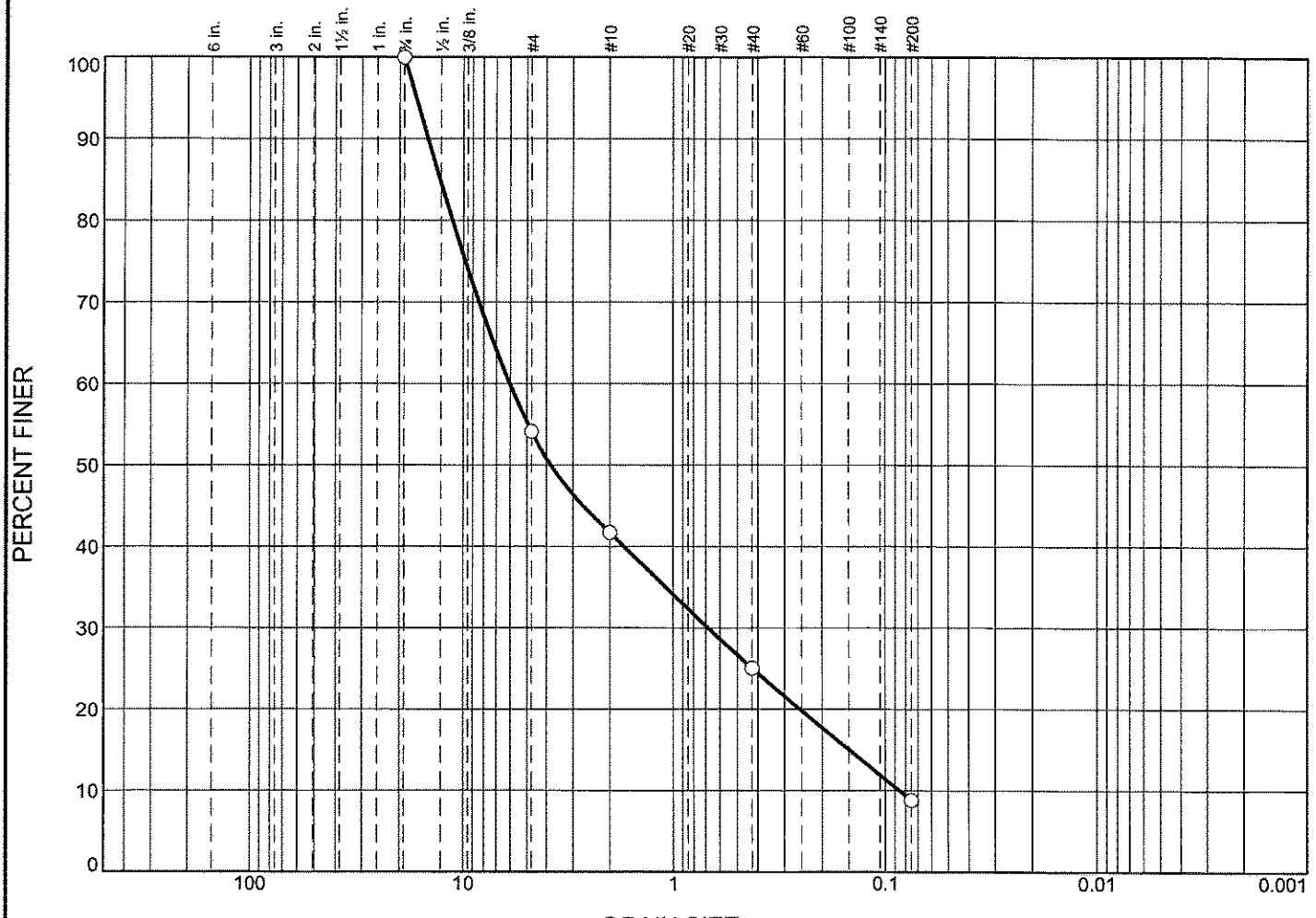
Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	5.0	5.0	14.0	30.6	29.8	74.4			20.6

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
			0.1329	0.4170	0.6978	1.9011	2.4729	3.2979	4.7343

Fineness Modulus
2.20

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	45.9	12.4	16.7	16.2	8.8	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			12.8851	6.0509	3.8250	0.6833	0.1490	0.0856	0.90	70.68

	Material Description	USCS	AASHTO
○			

Project No. **Client:**

Project:

○ **Source of Sample:** G **Sample Number:** L1527873-09

Remarks:

Alpha Analytical

Mansfield, MA

F-138

Figure

GRAIN SIZE DISTRIBUTION TEST DATA

11/19/2015

Location: G

Sample Number: L1527873-09

Sieve Test Data

Dry Sample and Tare (grams)	Tare (grams)	Sieve Opening Size	Weight Retained (grams)	Sieve Weight (grams)	Percent Finer
84.84	0.00	0.75	0.00	0.00	100.0
		#4	38.93	0.00	54.1
		#10	10.52	0.00	41.7
		#40	14.15	0.00	25.0
		#200	13.76	0.00	8.8

Fractional Components

Cobbles	Gravel			Sand				Fines		
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Silt	Clay	Total
0.0	0.0	45.9	45.9	12.4	16.7	16.2	45.3			8.8

D_{10}	D_{15}	D_{20}	D_{30}	D_{50}	D_{60}	D_{80}	D_{85}	D_{90}	D_{95}
0.0856	0.1490	0.2548	0.6833	3.8250	6.0509	11.2529	12.8851	14.7043	16.7451

Fineness Modulus	C_u	C_c
4.27	70.68	0.90

Certification Information

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

Westborough Facility
EPA 8260C: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; Iodomethane (methyl iodide) (soil); Methyl methacrylate (soil); Azobenzene.
EPA 8270D: Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
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.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: 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**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: 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: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

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

CHAIN OF CUSTODY

PAGE 1 OF 2

Date Rec'd in Lab: 10/29/15

ALPHA Job #: L1527873

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: US ARMY CORPS OF ENG.
Address: 696 VIRGINIA RD.
CONCORD MA 01742
Phone: 978 318 8048
Email: RICHARD.B.LOYD

Project Information

Project Name: BLUE HILL HARBOR
Project Location: BLUE HILL, ME
Project #:
Project Manager: RICHARD LOYD
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☑ ADEx ☐ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☑ Other State /Fed Program REM Criteria REM

Additional Project Information:

CORPS EDD REQUIRED.
NOT ENOUGH JARS FOR SEPERATE DUP/MS/MSD SAMPLES. PLEASE TAKE FROM RANDOM COMP. SAMPLE

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2 | SVOC: ☐ 8270 ☐ PAH | METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 | METALS: ☐ RCRA5 ☐ RCRA8 ☐ PPT13 | EPH: ☐ Ranges & Targets ☐ Ranges Only | VPH: ☐ Ranges & Targets ☐ Ranges Only | ☐ PCB ☐ PEST | TPH: ☐ Quant Only ☐ Fingerprint | GRAIN SIZE | TOTAL SOLIDS/%M | TOC

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
27873.01	A	10/28	1453	SE	RBL		2
02	B		1446				1
03	C		1433				1
04	COMP BC		1446				1
05	D		1422				1
06	E		1413				1
07	COMP DE		1422				1
08	F		1400				1
09	G		1343				1
10	COMP FG		1400				1

Container Type			A	A			A			P	P	A						
Preservative			A	A			A			A	A	A						

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
UPS	10/29/15 1652	UPS	10/29/15 13:04

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

CHAIN OF CUSTODY

PAGE 2 OF 2

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Date Rec'd in Lab: 10/29/15

ALPHA Job #: L1527873

Client Information

Client: US ARMY CORPS OF ENG.
Address: 696 VIRGINIA RD
CONCORD MA 01742
Phone: 978 318 8048
Email: RICHARD.B.LOYD@USACE.ARMY.MIL

Project Information

Project Name: BLUE HILL HARBOR
Project Location: BLUE HILL, ME
Project #:
Project Manager: RICHARD LOYD
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due:

Report Information - Data Deliverables

☑ ADEx ☑ EMAIL

Billing Information

☑ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☑ Other State /Fed Program RFM Criteria RFM

Additional Project Information:
CORPS EDD REQUIRED

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2 | SVOC: ☐ ABN ☐ PAH | METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15 | METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13 | EPH: ☐ Ranges & Targets ☐ Ranges Only | VPH: ☐ Ranges & Targets ☐ Ranges Only | ☐ PCB ☐ PEST | TPH: ☐ Quant Only ☐ Fingerprint | GRAIN SIZE | TOTAL SOLIDS %M

SAMPLE INFO
Filtration
☐ Field
☐ Lab to do
Preservation
☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	Sample Comments	TOTAL # BOTTLES
27873 . 11 . 03	DUP (C)	10/28	1433	SE	RBL		1
. 12	BLANK	↓	1453	DI H_2O	↓		5

Container Type	A	P				A		P	P				
Preservative	A	C				A		A	A				

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
UPS	10/28/15 1652	UPS	10/29/15 13:09

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FORM NO: 01-01 (rev. 12-Mar-2012)