# EXHIBIT 15

## HALEY & ALDRICH GEOTECHNICAL INFORMATION

#### GEOTECHNICAL DATA REPORT midtown DEVELOPMENT SOMERSET STREET PORTLAND, MAINE

by

Haley & Aldrich, Inc. Portland, Maine

for

The Federated Companies Miami, Florida

File No. 38354-000 13 November 2014



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13 November 2014 File No. 38354-000

The Federated Companies 3301 NE 1st Avenue, Suite M-302 Miami, Florida 33137

Attention: Nick Wexler Chief Operating Officer

Subject: Geotechnical Data Report midtown Development Somerset Street Portland, Maine

Ladies and Gentlemen:

This geotechnical data report (GDR) presents the results of previously completed subsurface investigation and laboratory test programs conducted within the proposed midtown Development area, which is located along the portion of Somerset Street between Elm Street and Pearl Street, in Portland, Maine. This work was completed in accordance with our proposal, dated 15 October 2012, and your subsequent authorization.

Please recall that as originally envisioned the midtown Development was to be completed (designed and constructed) in multiple phases. Under this original development scenario we previously submitted a GDR for what was at the time (May 2013) Phase I (Phase I GDR), which included proposed structures on the parcel(s) of land between Chestnut Street and Pearl Street. The Phase I GDR was prepared in support of Fay, Spofford & Thorndike's (FSTs) Level III Site Plan Application submission to the City of Portland (City).

Based on our recent discussions with you and FST, we understand that since the submission of the original Phase I GDR the project has been modified and will be developed (designed and constructed) in a single phase. As a result, a modification of the Level III Site Plan Application to the City is required and FST has requested that we revise and resubmit the GDR to include additional subsurface information on the parcel of land between Elm Street and Chestnut Street. The ultimate goal is to have a GDR that reflects the current scope and phasing of the proposed midtown Development.

We appreciate the opportunity to help support The Federated Companies (TFC) on this significant and challenging project, and we look forward to providing continued assistance to you during subsequent phases of the project.

#### **ELEVATION DATUM**

Elevations referenced herein are in feet and reference Portland City Datum (PCD). Portland City Datum relates to tidal datum at the site as follows:

$$MHHW = El. 5.4$$
  
 $MLLW = El. -4.5$ 

Please note that this tidal information is site specific and is taken from National Oceanic Atmospheric Administration (NOAA) tidal station No. 8418150 located on the Maine State Pier, Portland, Maine. This is the NOAA tidal station closest to the site.

#### SITE LOCATION, EXISTING CONDITIONS & PREVIOUS USE

The proposed midtown Development area is located in the Bayside region of Portland as shown on Figure 1, Project Locus. This portion of the Back Cove area, including the site, once consisted of tidal mudflats (see 1886 Sanborn Maps for area in Appendix E) and was filled with demolition debris (brick, concrete, rock fragments and wood), refuse, ash and soil during the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries, a great portion of which was generated by the Great Portland Fire of 1866. Historical Sanborn Maps of the site are provided for reference in Appendix E.

More specifically, the midtown Development site consists of two parcels that are separated by Chestnut Street. The southern parcel is bound by Elm Street to the south, Somerset Street to the east, Chestnut Street to the north and the Portland Trails pedestrian walkway and commercial properties to the west. The northern parcel is bound by Chestnut Street to the south, Somerset Street to the east, future Pearl Street Extension to the north and the Portland Trails pedestrian walkway and commercial properties to the west (see Figures 2 and 3, Site and Subsurface Exploration Location Plans). Ground surface elevations across the southern parcel vary from approximately El. 12 along the western boundary (Portland Trails pedestrian walkway) to approximately El. 8 along Somerset Street. The northern parcel is generally flat with existing ground surface elevations varying from approximately El. 8 to El. 10. One localized depression (bottom at approximately El. 6.5) is present near the northern end of the parcel.

#### **PROPOSED SITE DEVELOPMENT**

Based on our recent discussions with you and FST, we understand that current development plans call for an urban infill mixed-use development (midtown Development) on a 3.25-acre parcel of land located in the Bayside Area of Portland. The parcel has been subdivided into seven lots, which will be developed in one phase. We understand that the midtown Development will consist of four structures, designated midtownOne through midtownFour (midtownOne and midtownTwo on the northern parcel and midtownThree and midtownFour on the southern parcel). We also understand that midtownOne, midtownThree and midtownFour will consist of 6-story residential structures with one level (ground floor) of retail space. Below grade space is not currently being considered for any of the proposed structures. The proposed building footprints for each structure are shown on Figures 2 and 3.



#### SUBSURFACE EXPLORATIONS

Multiple subsurface exploration programs have been completed in and around the midtown Development site. Explorations, consisting of test pits and test borings were excavated/drilled by Tewhey Associates in 1998 for the Portland Brownfield's project and by Haley & Aldrich for the Phase II Environmental Site Assessment (ESA) completed in 2000 on the former Union Branch Rail Line, respectively. In addition, test borings were also drilled by Haley & Aldrich in 2006 and 2008 for the proposed Bayside Parking Garage and Master Planning Study (northern parcel; midtownOne and midtownTwo) and the proposed MaineHealth and United Way Development (southern parcel; midtownThree and midtownFour). More recently, Haley & Aldrich also completed a series of test borings along and within Somerset Street in 2013 as part of the proposed Somerset Street improvements project.

The plan locations of the test pits and test borings are shown on Figures 2 (northern parcel; midtownOne and midtownTwo) and 3 (southern parcel; midtownThree and midtownFour), Site and Subsurface Exploration Location Plans. Logs detailing subsurface soil, rock and groundwater conditions encountered in the subsurface explorations (test pits and test borings) are provided in Appendix A. Each exploration program is discussed separately, in the following sections of this report.

#### Portland Brownfield's Project Test Pits (1998)

A total of ten test pits, designated TP-1 through TP-10, were excavated as part of the Portland Brownfield's project. Of these explorations, only TP-1 through TP-7 and TP-10 were excavated within the vicinity of the proposed midtown Development area and are discussed herein. The test pits were excavated by Commercial Paving & Recycling of Scarborough, Maine in October 1998 under the direction of Tewhey Associates and extended to depths ranging from approximately 6 to 14 ft below ground surface (BGS).

#### Phase II ESA Test Pits and Test Borings (2000)

A total of fifteen test borings, designated B101 through B115, and twenty-six test pits, designated TP101 through TP125 (including TP102A and TP102B), were drilled/excavated for the Phase II ESA. Of these explorations, only test borings B110-B112 and test pits TP101-TP108 and TP114-TP125 were completed within the vicinity of the proposed midtown Development area. Only these explorations are discussed herein.

The test pits were excavated by Environmental Projects, Inc. of Gray, Maine under the direction of Haley & Aldrich in November 2000. The test pits were excavated to depths ranging from approximately 3.5 to 12.5 ft BGS using a Komatsu tracked excavator.



The test borings were drilled by Maine Test Borings, Inc. of Brewer, Maine under the direction of Haley & Aldrich and were advanced to approximately 12 BGS using a Mobile Drill B-47 track mounted drill rig. Test borings were advanced using 4.25-in. ID hollow stem augers. All soil samples were collected continuously through fill soils and into naturally deposited soils by driving a 1 3/8-in. ID split-spoon sampler with a 140-lb hammer dropped from a height of 30 in., as indicated on the test boring logs. The number of hammer blows required to advance the sampler through each 6 in. interval was recorded and is provided on the test boring logs. The Standard Penetration Test (SPT) N-value is defined as the total number of blows required to advance the sampler through the middle 12 in. of the 24-in. sampling interval.

Observation wells were installed in completed boreholes B110-B112 for the purposes of groundwater sampling and analytical testing. Static water levels within the observation wells were not measured.

#### **Bayside Parking Garage and Master Planning Test Borings (2006)**

Eleven test borings, designated HA06-1 through HA06-11, were drilled in association with the proposed Bayside Parking Garage and Master Planning project. Only test borings HA06-1 through HA06-9 were drilled in the vicinity of the proposed midtown Development area and are discussed herein.

The test borings were drilled by Maine Test Borings of Hermon, Maine under the direction of Haley & Aldrich in August 2006 using a trailer-mounted Mobile Drill B-47 drill rig. Test borings were drilled to depths ranging from approximately 41 to 67 ft BGS using 3.0-in. (NW-size) and 4.0-in. (HW-size) ID steel casing. Soil samples were collected at standard, 5-ft intervals using the methodology described in the previous sections.

Test borings HA06-1 and HA06-4 were advanced approximately 14 to 23 ft into bedrock using a 2.0-in. (NQ-size) ID diamond-tipped core barrel.

In-situ vane shear tests were conducted within the marine (clay) deposit in each test boring with the exception of test boring HA06-8. Vane shear tests were performed to provide information on the undrained shear strength and compressibility characteristics of the marine clay at the site. Results of the vane shear testing are summarized in Table II and are provided on the test boring logs in Appendix A.

A single observation well was installed in completed borehole HA06-2 to provide information on the static groundwater level at the site. The observation well consisted of 2-in. ID, machine-slotted PVC pipe and solid PVC riser pipe extending approximately 3 ft above existing ground surface. The observation well was outfitted with a steel guardpipe and steel lock/cap assembly.

Observation well installation and groundwater monitoring reports are provided in Appendix B.



#### MaineHealth/United Way Development Test Pits and Test Borings (2008)

A total of thirteen test borings, designated HA08-1 through HA08-13, were drilled within the limits of the southern parcel (midtownThree and midtownFour) in association with the proposed MaineHealth/United Way Development.

Subsurface explorations were drilled by Maine Test Borings, Inc. of Brewer, Maine under the direction of Haley & Aldrich in July and August 2008 using track-mounted Mobile Drill B-50 drill rig. Test borings were drilled to depths ranging from 14 to 102 ft BGS using 3.0-in. (NW-size) or 4.0-in. (HW-size) ID steel casing. Soil samples were collected continuously through the fill and harbor bottom deposits and at 5-ft (standard) or 10-ft intervals thereafter using the methodology described in the previous sections.

During the test boring program fill samples were collected, preserved and screened using a Thermo 580B Photoionization Detector (PID) to check for the presence of hydrocarbons. The results of the sample screening are recorded on the Headspace Screening Report provided in Appendix C.

Test borings HA08-5, HA08-7 and HA08-13 were advanced approximately 5 to 10 ft into bedrock using a 2.0-in. (NQ-size) ID diamond-tipped core barrel.

In-situ vane shear tests were conducted within the glaciomarine clay deposit in each of the test borings with the exception of HA08-3, HA08-6, HA08-9 and HA08-12. Results of the vane shear testing are summarized in Table II and are provided on the test boring logs in Appendix A.

A total of five, relatively undisturbed samples of marine clay were obtained in test borings HA08-4, HA08-8 and HA08-10. The samples were collected to perform laboratory consolidation testing aimed at determining the compressibility characteristics and the stress history of the clay. The samples were obtained by advancing a thin-wall Shelby Tube sampler into the clay using a piston sampler. Drilling mud was used while advancing the test borings in order to minimize soil disturbance. The drilling mud consists of a relatively thick and smooth mixture of water and bentonite-based powder.

Three observation wells were installed in completed boreholes HA08-5, HA08-7 and HA08-12 to provide information on the static groundwater level and to determine whether the groundwater levels at the site are affected by tidal fluctuations in nearby Back Cove. The observation wells consisted of 2-in. ID, machine-slotted PVC pipe and solid PVC riser pipe extending approximately 3 ft above existing ground surface. The observation wells were outfitted with a steel guardpipe and steel lock/cap assembly. Observation well installation and groundwater monitoring reports are provided in Appendix B.

Upon completion of the test borings, three test pits designated TP-201 through TP-203 were excavated adjacent to the previously installed observation wells. The test pits were excavated by Environmental Projects, Inc. of Auburn, Maine under the direction of Haley & Aldrich in October 2008. The test pits were excavated to depths ranging from approximately 8 to 11 ft BGS using a Komatsu PC 35MR excavator.



#### Proposed Somerset Street Improvements Test Borings (2013)

A total of six test borings, designated HA13-1 through HA13-6, were drilled in January 2013 along and within Somerset Street, between Elm and Pearl Streets in association with the proposed Somerset Street Improvements project. Each test boring was drilled adjacent to either the southern parcel (HA13-1-HA13-3; midtownThree and midtownFour) or the northern parcel (HA13-4-HA13-6; midtownOne and midtownTwo) and are discussed herein.

The test borings were drilled by Northern Test Borings, Inc. (NTB) of Gorham, Maine under the direction of Haley & Aldrich using a Diedrich D50 truck-mounted drill rig and 2.5-in ID hollow stem augers (HSAs). Each test boring was advanced to a depth of 20 ft BGS. Soil samples were collected continuously through the man-placed fill, harbor bottom deposit (if present) and into the underlying marine clay using the methodology described in the previous sections of this report.

#### SUBSURFACE CONDITIONS

#### Soil Unit and Bedrock Conditions

Generally, subsurface explorations encountered the following geologic units, presented in order of increasing depth below existing ground surface:

- Bituminous/Portland cement concrete and Fill
- Harbor Bottom Deposit
- Marine Clay
- Marine Sand
- Glacial Till
- Bedrock

Not all materials were encountered at each exploration location. Refer to Table I for a summary of the "geotechnical" test borings and Appendix A for logs of test pits and test borings, respectively. A brief description of each geologic unit is provided below.

#### A. Bituminous/ Portland cement concrete and Fill

Bituminous concrete and concrete surfaces were encountered in explorations along the east side (Somerset Street) of northern parcel (midtownOne and midtownTwo) as well as the 2013 test borings drilled within Somerset Street. The thickness of the material ranged from approximately 0.2 to 1.0 ft.

As previously discussed, the Bayside region of the Back Cove area once consisted of tidal mudflats and has a long history of filling. The subsurface explorations referenced herein encountered approximately 8 to 14 ft of fill, which consisted of the following:



- poorly-graded to well-graded GRAVEL (SP to SW) with varying percentages of silt,
- silty GRAVEL (GM)
- silty SAND (SM) with varying percentages of gravel,
- poorly-graded to well-graded SAND (SP to SM) with varying percentages of silt,
- sandy CLAY (CL) to clayey SAND (SC)
- Rock fill was encountered in test boring HA08-2 between approximately 10 and 14 ft BGS.

The fill soils generally contained ash, cinders, metal, wood, brick and concrete fragments some portions of which were stained black.

The granular fill soils were typically loose to very dense with SPT N-values ranging from 8 to 56 bpf. The cohesive fill soils (CL to SC) were generally soft to hard with SPT N-values ranging from 2 to 67 bpf.

#### **B.** Harbor Bottom Deposit

This deposit was encountered in many of the referenced test borings drilled within the northern and southern parcels as well as along and within Somerset Street. This deposit was previously exposed at ground surface in the tidal/mudflat area of the Back Cove prior to site filling (see Sanborn maps in Appendix E). Where encountered, the thickness of the layer ranged from approximately 1 to 9 ft, generally increasing in thickness towards Back Cove. This material typically consisted of gray, sandy SILT (ML) or sandy ORGANIC SOIL (OL/OH) with varying percentages of organic matter (rootlets, wood fragments etc.) and shells. In some locations the lower portions of the deposit consisted of gray silty SAND (SM), gray SILT (ML) with varying amounts of sand or gray lean CLAY (CL) with organic matter and shells. The deposit was generally very soft to very stiff with SPT N-values ranging from 1 to 24 bpf.

#### C. Marine Clay

Marine clay was encountered at each test boring location. The thickness of the deposit ranged from 20 to in excess of 50 ft, typically increasing in thickness to the south and west. The upper portion of the deposit consisted of olive-gray lean CLAY (CL) and was typically medium stiff to stiff with undrained shear strengths ranging from approximately 1,000 to 1,700 psf (referred to herein as the clay "crust"). The lower portion of the deposit consisted of soft to medium stiff, gray lean CLAY (CL) with undrained shear strengths typically ranging from 400 to 800 psf. The lowest (deepest) portions of the deposit typically contained frequent fine sand seams and partings.

#### D. Marine Sand

Marine sand was encountered sporadically across the site (northern and southern parcels). Where encountered, the marine sand was present directly beneath the marine clay layer. The thickness ranged from approximately 3 to 12 ft and generally increased to the north and east. The material typically consisted of gray, poorly-graded SAND (SP), well-graded SAND (SW) or silty SAND (SM), and was loose to medium dense with SPT N-values ranging from 3 to 23 bpf.



#### E. Glacial Till

Glacial till was encountered in several test borings underlying either the marine clay or marine sand layers and ranged in thickness from approximately 2 to 30 ft (typically between 2 and 10 ft), generally increasing to the south and west. The soil unit generally consisted of two different soil types: gray, silty SAND (SM) with a small percentage of fine gravel; and gray, clayey SAND with gravel (SC). The soil was typically medium dense to very dense with SPT N-values ranging from 14 to in excess of 100 bpf. Cobbles and boulders were not encountered in the glacial till during drilling of the test borings. However, their presence within the deposit is common and they may be present at other locations where explorations were not completed.

#### F. Bedrock

Bedrock was encountered in the majority of explorations completed within the northern and southern parcels at depths ranging from approximately 40 to 99 ft BGS. The bedrock surface generally slopes down from north to south. Bedrock encountered and sampled in the test borings consisted of the following:

- Very soft to soft, moderately to highly weathered PHYLLITE with occasional calcite veins and quartz intrusions,
- Very soft to moderately hard, fresh to highly weathered graphitic or chlorite SCHIST with frequent calcite veins and pyrite seams,
- Moderately hard, moderately to highly weathered SILTSTONE.

All rock types encountered are considered part of the Cape Elizabeth Formation. At most test boring locations several feet (up to approximately 7 ft but more typically 1-2 ft) of highly weathered and/or decomposed bedrock was encountered as indicated on the test boring logs included in Appendix A.

Rock quality designation (RQD) is a common parameter that is used to help assess the competency of sampled bedrock. RQD is defined as the sum of pieces of recovered bedrock greater than 4 in. in length divided by the total length of the bedrock core. RQD values for bedrock encountered at the site ranged from 0 to 78 percent and were typically less than 44 percent.

#### **Groundwater Conditions**

Observation wells were installed in completed boreholes HA06-2 (northern parcel; midtownOne and midtownTwo) and HA08-5, HA08-7 and HA08-12 (southern parcel; midtownThree and midtownFour).

Groundwater levels measured in the observation well installed in completed borehole HA06-2 in August and September 2006 ranged between El. 5.2 and El. 6.4, approximately 3 to 4 ft BGS.



In addition, Haley & Aldrich initially measured groundwater levels in the observation wells installed in southern parcel periodically using a manually operated water level indicator. Beginning on 7 August 2008 downhole transducers were installed in the observation wells and were programmed to record the groundwater level in the wells every 15 minutes. This was done to determine whether the static groundwater level is influenced by tidal fluctuations in nearby Back Cove. All groundwater depths were measured relative to the existing ground surface. The transducers were removed from the observation wells on 22 August 2008. Based on the data collected between 7 and 22 August 2008, groundwater levels were measured between 6 and 8 ft below existing ground surface and did not appear to be influenced by tidal fluctuations in Back Cove.

Groundwater levels can be expected to fluctuate, subject to seasonal variation, local soil conditions, topography and precipitation. Groundwater levels encountered during construction may differ from those observed in the test borings or observation well. Observation well installation and groundwater monitoring reports are provided in Appendix B.

#### GEOTECHNICAL LABORATORY SOIL TESTING

A laboratory testing program was conducted in 2008 in association with the proposed MaineHealth/United Way Development. The testing program was completed to assist in soil classification, evaluate reuse potential of the in-situ fill soils, and for determination of engineering properties (strength and compressibility) of the naturally deposited marine clay soils.

The testing program included four grain size analyses, four natural water content tests, six Atterberg Limits tests, and two constant rate of strain consolidation (CRSC) tests (used to determine the compressibility and stress history characteristics of marine clay). Prior to CRSC testing, radiography tests were conducted on Shelby tube samples collected during the subsurface exploration program. Radiography tests were run on five thin-walled tube samples of soil selected for laboratory testing to aid in assessing the sample quality, general material type and presence of areas of disturbance and variations in soils retrieved.

All laboratory testing was completed in accordance with applicable ASTM test procedures. Grain size analyses were conducted by Haley & Aldrich at our laboratory in Boston, Massachusetts. Natural water content, Atterberg Limits, and CRSC tests were completed by GeoTesting Express of Acton, Massachusetts. Laboratory test results are provided in Appendix D.

#### SUBSURFACE CONDITIONS IMPACTS ON DEVELOPMENT

Based on the subsurface conditions encountered during the previously completed subsurface investigations we have the following general geotechnical "observations" regarding the potential impacts that the subsurface conditions may have on the proposed midtown Development:



- Due to presence and compressible nature of the fill, harbor bottom and marine clay soils present at the site, pile foundations would likely be needed to support "heavily-loaded" buildings (e.g., greater than two stories). Construction of a single level of below-grade space beneath a "heavilyloaded" building may unload the site enough to eliminate the need for piles. Further study is required.
- Due to presence and compressible nature of the fill, harbor bottom and marine clay soils present at the site, modest raises in grade would likely result in ground surface, ground floor slab and utility settlement. We recommend that this be considered when planning final site grading.
- Due to the proximity of the water table to existing grade at the site and the proposed finish floor elevations, we anticipate that a foundation drainage system would not be needed with the exception of locally depressed portions of the building footprints (elevator pits, utility vaults, etc.).
- Based on the shear strength information obtained during the exploration program and the seismic requirements of the latest edition of the IBC Code, it is likely that proposed would have to be designed in accordance with either "Site Class D" or "Site Class E" classifications.

Please note that additional analyses will be conducted to verify the accuracy of these observations for the proposed midtown Development. Based on the "soft" condition of the soils present at the site, impacts of site grading, pavement evaluations and building and utility support should be considered carefully during the design-phase of the project. We will provide foundation support and other geotechnical design recommendations under separate cover during subsequent phases of the project.

#### LIMITATIONS

This report has been prepared for the exclusive use of The Federated Companies relative to the proposed midtown Development project in Portland, Maine. There are no intended beneficiaries other than The Federated Companies. Haley & Aldrich shall owe no duty whatsoever to any other person or entity on account of the Agreement or the report. Use of this report by any person or entity other than The Federated Companies for any purpose whatsoever is expressly forbidden unless such other person or entity obtains written authorization from The Federated Companies and from Haley & Aldrich. Use of this report by such other person or entity without the written authorization of The Federated Companies and Haley & Aldrich shall be at such other person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich.

Use of this Report by any person or entity, including by The Federated Companies, for a purpose other than the proposed midtown Development project in Portland, Maine is expressly prohibited unless such person or entity obtains written authorization from Haley & Aldrich indicating that the Report is adequate for such other use. Use of this Report by any other person or entity for such other purpose without written authorization by Haley & Aldrich shall be at such person's or entities sole risk, and shall be without legal exposure or liability to Haley & Aldrich.



The analyses and recommendations are based, in part, upon the data obtained from the referenced subsurface explorations. The nature and extent of variations between explorations may not become evident until construction. If variations then appear, it may be necessary to reevaluate the recommendations of this report.

#### CLOSURE

We appreciate the opportunity to provide geotechnical consulting services on this project. Please do not hesitate to call if you have any questions or comments.

Sincerely yours, HALEY & ALDRICH, INC.

By C. Stit

Bryan C. Steinert, P.E. Project Manager | Senior Geotechnical Engineer

Enclosures:

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Wayne A. Chadbourne, P.E.

Wayne A. Chadbourne, P.E. Vice President | Lead Geotechnical Engineer

Table I -	Summary of Geotechnical Test Borings
Table II -	In-Situ Vane Shear Test Results (2 pages)
Figure 1 -	Project Locus
Figure 2 -	Site and Subsurface Exploration Location Plan (1 of 2)
Figure 3 -	Site and Subsurface Exploration Location Plan (2 of 2)
Appendix A –	Logs of Subsurface Explorations
Appendix B –	Observation Well Installation and Groundwater Monitoring Reports
Appendix C –	2008 Soil Screening Headspace Reports for Proposed MaineHealth/United Way
	Development
Appendix D -	2008 Laboratory Test Results for Proposed MaineHealth/United Way
	Development
Appendix E -	Historic Sanborn Maps

C: Fay, Spofford & Thorndike; Attn.: Bo Kennedy, P.E.

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#### REFERENCES

- 1. Report entitled, "Phase II Environmental Site Assessment, Union Branch Rail Line Property, Portland, Maine," prepared by Haley & Aldrich, Inc. for the Maine Department of Transportation, dated December 2000.
- 2. Report entitled, "Subsurface Explorations & Foundation Design Recommendations, Proposed Bayside Parking Garage, 25 Somerset Street, Portland, Maine," prepared by Haley & Aldrich, Inc. for Scott Simons Architects, dated 22 September 2006.
- 3. Report entitled, "Master Planning Geotechnical Investigation, Proposed Bayside Development, Parcels A and B, Somerset Street, Portland, Maine," prepared by Haley & Aldrich, Inc. for Scott Simons Architects, dated 25 October 2006.
- 4. Report entitled, "Geotechnical Data Report, MaineHealth/United Way Development, Somerset and Chestnut Streets, Portland, Maine," prepared by Haley & Aldrich, Inc. for Maine Medical Center, dated 10 September 2008.
- 5. Memorandum entitled, "Results of Test Pit Exploration Program, MaineHealth/United Way Development, Somerset and Chestnut Streets, Portland, Maine," prepared by Haley & Aldrich, Inc. for Maine Medical Center, dated 4 December 2008.
- 6. Memorandum entitled, "Subsurface Investigation and Geotechnical Evaluations, Proposed Somerset Street Improvements, Portland, Maine," prepared by Haley & Aldrich, Inc. for the City of Portland, dated 23 April 2013.

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# TABLE I Summary of Geotechnical Test Borings midtown Development Somerset Street, Portland, Maine

Test	Estimated			Thickness of S	Strata <sup>4,5,6</sup> (ft)			<ul> <li>Approximate</li> <li>Elevation of Top</li> <li>of Bedrock<sup>2,3</sup></li> </ul>	Approximate Elevation of Bottom of Exploration <sup>2,3</sup>	
Boring	Ground Surface	Bituminous		Harbor		Deposits	- Glacial Till			
No. <sup>1</sup>	Elevation <sup>2,3</sup>	Concrete/ Concrete	Fill	Bottom Deposit	Clay	Sand				
2006 Bayside F	Parking Garage & N	laster Planning:								
HA06-1	9.0	NE	11.0	4.0	20.5	2.5	1.8	-30.8	-53.4	
HA06-2(OW)	9.0	NE	11.3	3.7	19.5	5.5	NE	-31.0	-38.2	
HA06-3	9.0	NE	5.9	9.4	23.7	NE	>3.0	NE	-33.0	
HA06-4	9.0	1.0	13.5	NE	27.5	NE	3.0	-36.0	-51.2	
HA06-5	10.0	0.3	13.7	NE	29.5	NE	4.0	-37.5	-42.2	
HA06-6	10.0	0.4	10.1	3.0	27.0	0.8	NE	-31.3	-31.5	
HA06-7	10.5	NE	13.0	NE	51.0	NE	3.0	NE	-56.5	
HA06-8	12.0	NE	14.0	NE	36.2	NE	1.6	-39.8	-42.0	
HA06-9	9.5	NE	10.2	NE	27.8	NE	3.5	-32.0	-33.2	
2008 MaineHe	alth/United Way D	evelopment:								
HA08-1	11.5	0.1	8.9	5.5	54.5	NE	29.5	-87.0	-90.5	
HA08-2	9.0	NE	14.0	NE	47.0	NE	5.6	-57.6	-59.7	
HA08-3	11.0	1.0	11.0	4.1	>1.9				-7.0	
HA08-4	12.0	0.5	12.5	3.9	41.9	NE	5.6	-52.4	-54.0	
HA08-5(OW)	9.0	NE	10.5	2.5	40.0	NE	9.5	-53.5	-59.8	
HA08-6	10.0	NE	12.3	>1.7					-4.0	
HA08-7(OW)	12.0	NE	12.5	1.5	24.0	NE	22.1	-48.1	-60.0	
HA08-8	9.0	NE	9.5	4.3	29.2	5.6	NE	-39.6	-41.5	
HA08-9	11.0	NE	12.0	2.0	>2.0				-5.0	
HA08-10	9.0	NE	10.0	1.3	23.9	10.3	2.0	-38.5	-40.5	
HA08-11	11.0	NE	12.5	1.7	19.8	12.0	6.5	-41.5	-44.0	
HA08-12(OW)	11.0	NE	11.6	2.4	>2.0				-5.0	
HA08-13	9.0	NE	12.5	NE	27.1	7.0	NE	-37.6	-47.0	
2013 Somerset	t Street Improveme	ents:								
HA13-1	7.5	0.2	8.3	5.5	>6.0				-12.5	
HA13-2	8.0	0.2	8.2	2.6	>9.0				-12.0	
HA13-3	7.5	0.3	7.7	3	>9.0				-12.5	
HA13-4	9.0	0.3	9.2	3.8	>6.7				-11.0	
HA13-5	10.0	0.2	9.3	4.5	>6.0				-10.0	
HA13-6	10.0	0.2	8.3	5.0	>6.5				-10.0	

Notes:

<sup>1</sup> Approximate test boring locations are shown on Figures 2 and 3, Site and Subsurface Exploration Location Plans.

<sup>2</sup> Ground surface elevations at test boring locations are approximate and were estimated by interpolating between elevation contour data provided by others at the time respective exploration programs were completed.

<sup>3</sup> Elevations are in feet and reference Portland City Datum.

<sup>4</sup> "NE" indicates stratum was not encountered in test boring.

 $^{\rm 5}$  "--" indicates test boring was not drilled deep enough to determine presence of stratum.

<sup>6</sup> ">" indicates test boring was not drilled deep enough to determine full thickness of stratum.

Developed By:	BCS	11/10/2014
Checked By:	EAF	11/10/2014
Reviewed By:	WAC	11/12/2014

#### TABLE II

2006 Bayside Garage and Master Planning In-Situ Vane Shear Test Results

midtown Development

Somerset Street, Portland, Maine

Test Boring No. <sup>1</sup>	Estimated Ground Surface Elevation <sup>2,3</sup>	Vane Size (in. x in.)	Test No. ⁴	Approximate Depth Below Existing Ground Surface (ft)	Approximate Elevation <sup>2,3</sup>	V <sub>max</sub> <sup>5,7</sup> (inlbs)	V <sub>remolded</sub> <sup>5,7</sup> (inlbs)	Su <sup>6,7</sup> (psf)	S <sub>u(remolded)</sub> (psf)
NO.	Lievation			Top - Bottom	Top - Bottom				
		3.5 x 8	FV1	20.4 - 21.0	-11.412.0	>600	-	>690	-
		3.5 x 8	FV2	25.4 - 26.0	-16.417.0	>600	-	>690	-
HA06-1	9.0	2 x 8.5	FV3	26.3 - 27.0	-17.318.0	300	100	1,010	340
		3.5 x 8	FV4	30.4 - 31.0	-21.422.0	180	135	210	150
		3.5 x 8	FV5	31.4 - 32.0	-22.423.0	>600	-	>690	-
		2 x 8.5	FV1	20.3 - 21.0	-11.312.0	167	49	560	170
HA06-2(OW)	9.0	3.5 x 8	FV2	25.4 - 26.0	-16.417.0	519	99	590	120
		3.5 x 8	FV3	30.4 - 31.0	-21.422.0	528	31	600	40
		2 x 8.5	FV1	15.3 - 16.0	-6.37.0	426	123	1,430	410
HA06-3	9.0	2 x 8.5	FV2	25.3 - 26.0	-16.317.0	128	32	430	110
HAU0-3	9.0	2 x 8.5	FV3	28.3 - 29.0	-19.320.0	129	31	430	100
		2 x 8.5	FV4	35.3 - 36.0	-26.327.0	161	35	540	120
		2 x 8.5	FV1	20.3 - 21.0	-11.312.0	255	49	860	170
	0.0	2 x 8.5	FV2	30.3 - 31.0	-21.322.0	135	50	450	170
HA06-4	9.0	2 x 8.5	FV3	35.3 - 36.0	-26.327.0	145	39	490	130
		2 x 8.5	FV4	40.3 - 41.0	-31.332.0	169	39	570	130
		3.5 x 8	FV1	20.4 - 21.0	-10.411.0	>600	-	>690	-
	10.0	2 x 8.5	FV2	21.3 - 22.0	-11.312.0	273	72	920	240
HA06-5	10.0	3.5 x 8	FV3	30.4 - 31.0	-20.421.0	508	112	580	130
		3.5 x 8	FV4	40.4 - 41.0	-30.431.0	560	42	640	50
		2 x 8.5	FV1	21.3 - 22.0	-11.312.0	184	78	620	260
		3.5 x 8	FV2	25.4 - 26.0	-15.416.0	465	338	530	390
HA06-6	10.0	3.5 x 8	FV3	30.4 - 31.0	-20.421.0	>600	127	>690	150
		3.5 x 8	FV4	36.4 - 37.0	-26.427.0	231	110	260	130
		3.5 x 8	FV5	37.4 - 38.0	-27.428.0	600	131	690	150
		2 x 8.5	FV1	20.3 - 21.0	-9.810.5	>500	-	1,680	-
		2 x 8.5	FV2	25.3 - 26.0	-14.815.5	250	83	840	270
HA06-7	10.5	2 x 8.5	FV3	35.3 - 36.0	-24.825.5	175	33	590	110
		2 x 8.5	FV4	40.3 - 41.0	-29.830.5	172	49	580	170
		2 x 8.5	FV5	56.0 - 56.7	-45.546.2	258	-	860	-
		3.5 x 8	FV1	20.4 - 21.0	-10.911.5	490	100	560	110
HA06-9	9.5	3.5 x 8	FV2	30.4 - 31.0	-20.921.5	560	112	640	130

Notes:

<sup>1</sup> Approximate test boring locations are shown on Figures 2 and 3, Site and Subsurface Exploration Location Plans.

<sup>2</sup> Ground surface elevations at test boring locations are approximate and were estimated by interpolating between 2006 elevation contour data provided by others.

<sup>3</sup> Elevations are in feet and reference Portland City Datum.

<sup>4</sup> Vane numbers are shown on the Test Boring Logs presented in Appendix A.

 $^{\rm S}~V_{\rm max}$  and  $V_{\rm remolded}$  represent direct peak and remolded vane torque values, respectively.

 $^{6}$  S<sub>u</sub> and S<sub>u(remolded)</sub> represent corrected undrained peak and residual shear strengths, respectively, rounded to the nearest 10 psf.

<sup>7</sup> in-lbs = inch-pounds of torque, psf = pounds per square foot.

Developed By:	BCS	11/10/2014
Checked By:	EAF	11/10/2014
Reviewed By:	WAC	11/12/2014

Page 1 of 2

#### TABLE II

2008 MaineHealth/United Way Development In-Situ Vane Shear Test Results

midtown Development

Somerset Street, Portland, Maine

Test	Estimated			Approximate Depth		5,7	5,7	- 67	6,7
Boring	Ground Surface	Vane Size	Test	Below Existing Ground	Approximate Elevation <sup>2,3</sup>	v <sub>max</sub>	Vremolded	S <sub>u</sub> <sup>6,7</sup>	Su(remolded)
No.1	Elevation 2,3	(in. x in.)	No. <sup>4</sup>	Surface (ft)		(inlbs)	(inlbs)	(psf)	(psf)
-				Top - Bottom	Top - Bottom				
		2 x 8.5	FV1	25.3 - 26.0	-13.814.5	264	72	900	250
HA08-1	11.5	2 x 8.5	FV2	35.3 - 36.0	-23.824.5	192	96	650	330
		2 x 8.5	FV3	45.3 - 46.0	-33.834.5	204	120	690	410
	-	2 x 8.5	FV4	56.3 - 57.0	-44.845.5	360	156	1,220	530
		2 x 8.5	FV1	25.3 - 26.0	-16.317.0	180	60	610	200
HA08-2	9.0	2 x 8.5	FV2	35.3 - 36.0	-26.327.0	120	36	410	120
		2 x 8.5	FV3	45.3 - 46.0	-36.337.0	168	48	570	160
		2 x 8.5	FV4	55.3 - 56.0	-46.347.0	144	36	490	120
		3.5 x 8	FV1	22.3 - 23.0	-10.311.0	950	-	1,050	-
		3.5 x 8	FV2	27.3 - 28.0	-15.316.0	540	142	590	160
		3.5 x 8	FV3	30.3 - 31.0	-18.319.0	450	80	500	90
HA08-4	12.0	3.5 x 8	FV4	35.3 - 36.0	-23.324.0	305	45	340	50
		3.5 x 8	FV5	40.3 - 41.0	-28.329.0	360	108	400	120
		3.5 x 8	FV6	45.3 - 46.0	-33.334.0	384	96	420	110
		3.5 x 8	FV7	50.3 - 51.0	-38.339.0	552	72	610	80
		2 x 8.5	FV1	20.3 - 21.0	-11.312.0	212	75	720	260
		2 x 8.5	FV2	25.3 - 26.0	-16.317.0	213	59	720	200
HA08-5(OW)	9.0	2 x 8.5	FV3	30.3 - 31.0	-21.322.0	215	51	730	170
	510	2 x 8.5	FV4	35.3 - 36.0	-26.327.0	175	85	600	290
		2 x 8.5	FV5	40.3 - 41.0	-31.332.0	175	55	600	190
		2 x 8.5	FV6	50.3 - 51.0	-41.342.0	205	109	700	370
		2 x 8.5	FV1	20.3 - 21.0	-8.39.0	245	95	830	320
HA08-7(OW)	12.0	2 x 8.5	FV2	25.3 - 26.0	-13.314.0	215	51	730	170
HAU8-7(UW)	12.0	2 x 8.5	FV3	30.3 - 31.0	-18.319.0	201	82	680	280
		2 x 8.5	FV4	35.3 - 36.0	-23.324.0	255	62	870	210
		3.5 x 8	FV1	18.3 - 19.0	-9.310.0	420	60	460	70
		3.5 x 8	FV2	22.3 - 23.0	-13.314.0	552	48	610	50
HA08-8	9.0	3.5 x 8	FV3	30.3 - 31.0	-21.322.0	346	108	380	120
		3.5 x 8	FV4	35.3 - 36.0	-26.327.0	708	132	780	150
		3.5 x 8	FV5	39.3 - 40.0	-30.331.0	936	72	1,030	80
		3.5 x 8	FV1	19.3 - 20.0	-10.311.0	468	96	520	110
HA08-10	9.0	3.5 x 8	FV2	23.3 - 24.0	-14.315.0	660	120	730	130
UM00-10	5.0	3.5 x 8	FV3	27.3 - 28.0	-18.319.0	360	84	400	90
		3.5 x 8	FV4	30.3 - 31.0	-21.322.0	204	62	220	70
HA08-11	11.0	2 x 8.5	FV1	25.3 - 26.0	-14.315.0	215	50	720	170
		2 x 8.5	FV1	20.3 - 21.0	-11.312.0	199	50	670	170
HA08-13	9.0	2 x 8.5	FV2	25.3 - 26.0	-16.317.0	174	71	590	240
HAU8-13	9.0	2 x 8.5	FV3	30.3 - 31.0	-21.322.0	82	75	280	250
		2 x 8.5	FV4	35.3 - 36.0	-26.327.0	215	64	720	220

Notes:

<sup>1</sup> Approximate test boring locations are shown on Figures 2 and 3, Site and Subsurface Exploration Location Plans.

<sup>2</sup> Ground surface elevations at test boring locations are approximate and were estimated by interpolating between 2008 elevation contour data provided by others.

<sup>3</sup> Elevations are in feet and reference Portland City Datum.

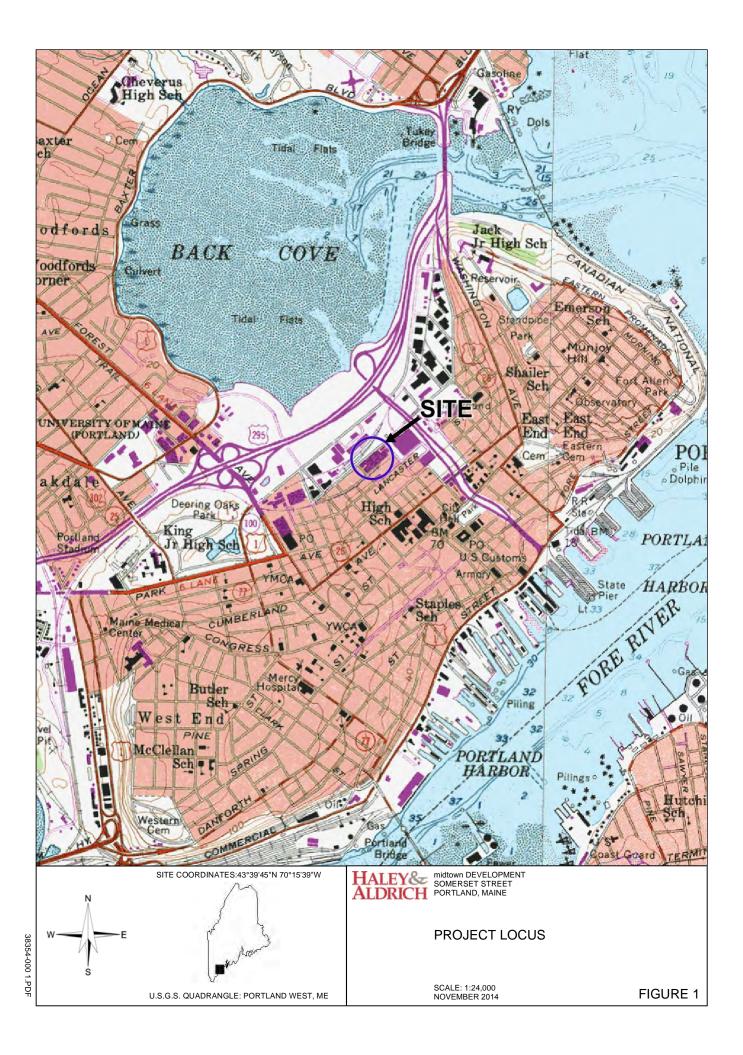
 $^{\rm 4}\,$  Vane numbers are shown on the Test Boring Logs presented in Appendix A.

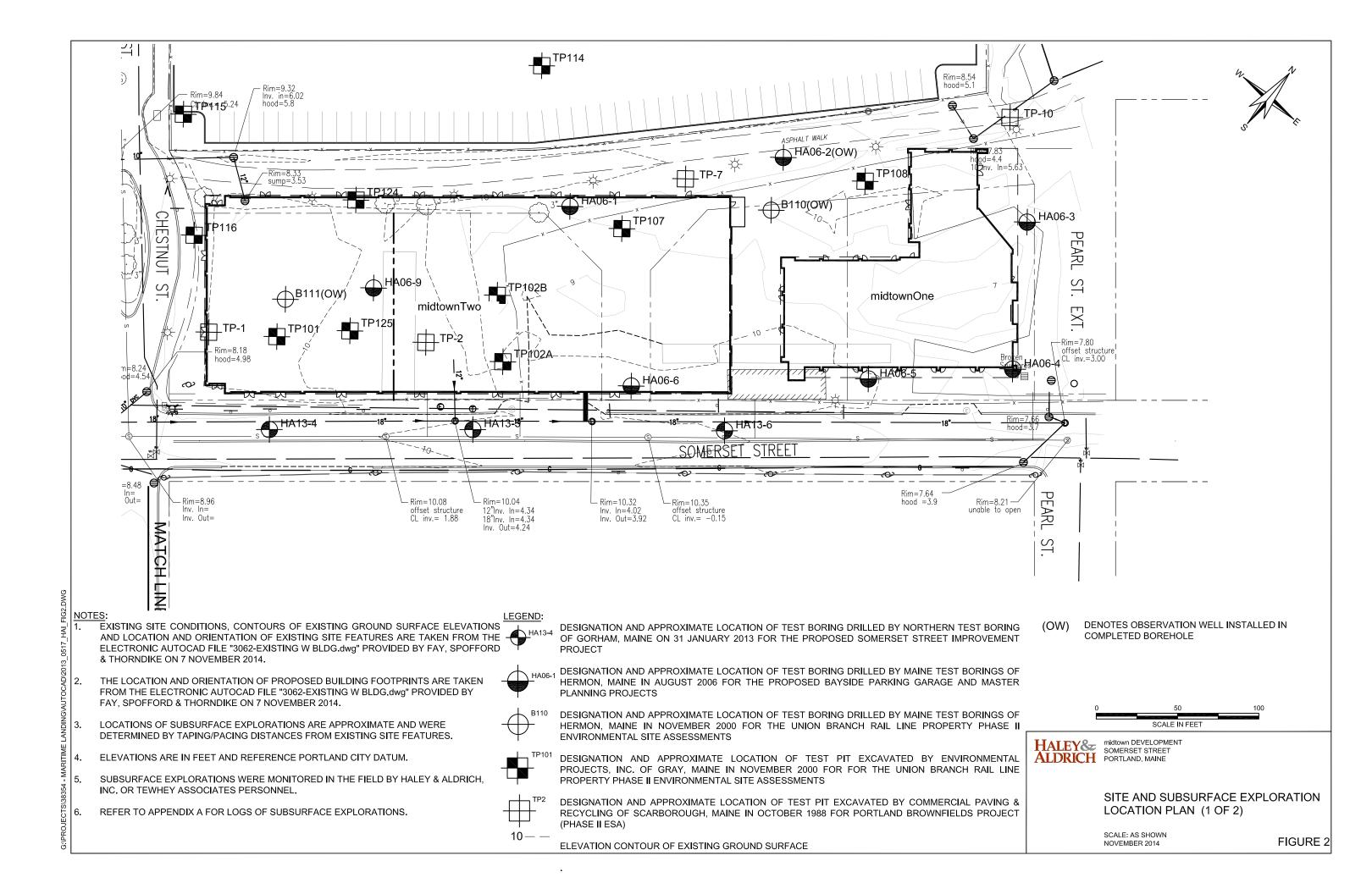
 $^{\rm 5}~\rm V_{max}$  and  $\rm V_{remolded}$  represent direct peak and remolded vane torque values, respectively.

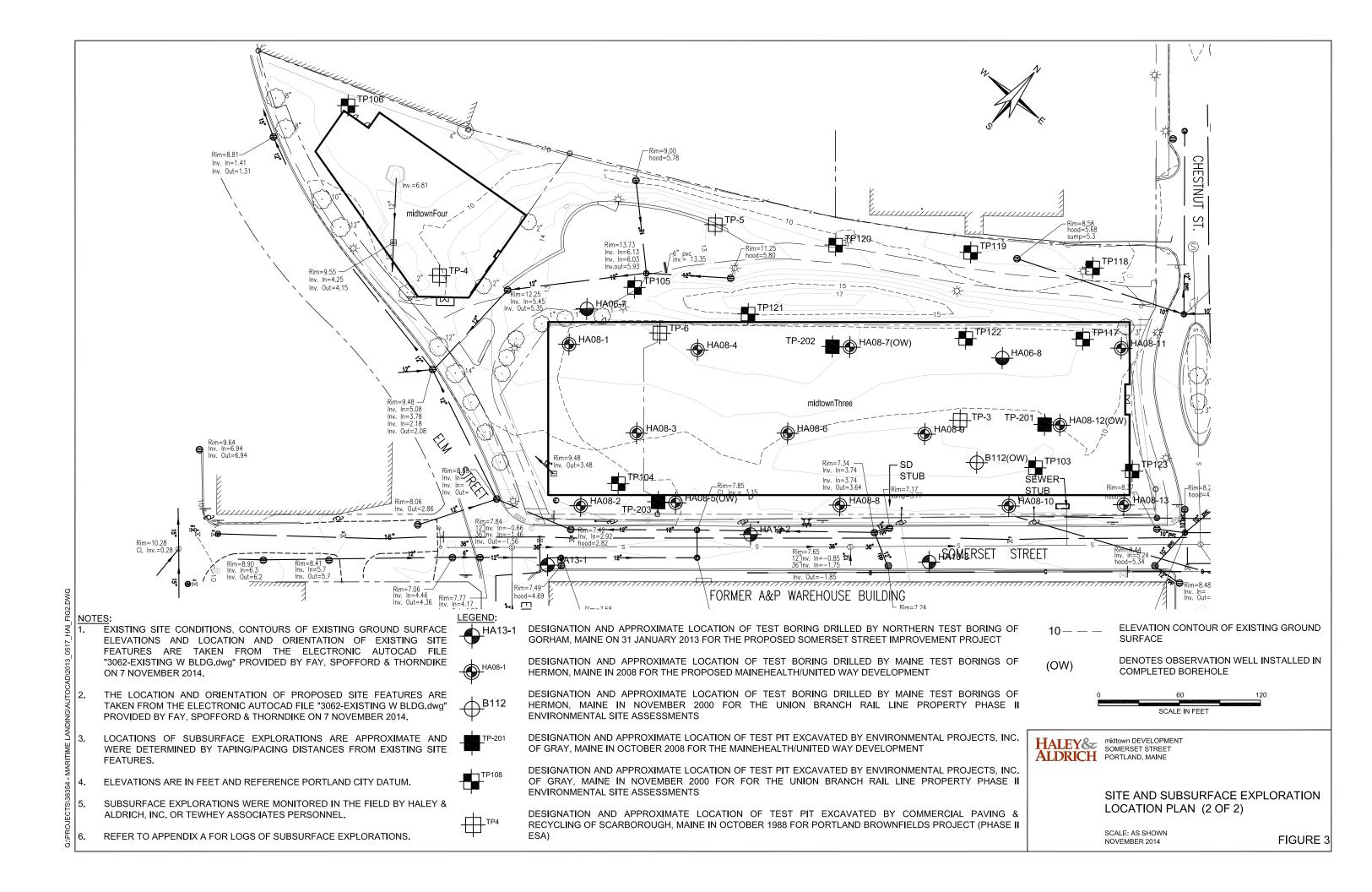
 $^{6}$  S<sub>u</sub> and S<sub>u(remolded)</sub> represent corrected undrained peak and residual shear strengths, respectively, rounded to the nearest 10 psf.

 $^{7}$  in-lbs = inch-pounds of torque, psf = pounds per square foot.

Developed By:	BCS	11/10/2014
Checked By:	EAF	11/10/2014
Reviewed By:	WAC	11/12/2014







### APPENDIX A

Logs of Subsurface Explorations

1998 Test Pit Logs for Phase II Environmental Site Assessment (see Reference 1)

### 11XTHEY ASSOCIATES

Portland Brownfields - Portland Terminal -

### TEST PIT LOG

NO:

BACKHOEL Commercial Paymer

TP-1

LOCATION: Middle of Sile ...

#### PROJECT: PROJECT NO:

97-005 10-29-98 DATE:

INVESTIGATOR | Tewhey

	Ref. Soil San			
PID (ppm)	(Recovery	7)	Description	Depth (Feet)
	r	=		·
<1.0	8-1	1111	Coarse black sand and gravel with coal and ash (FILL).	1.0
2.0	S-2		Light brown medium sand with gray ash lenses (FILL).	2.0
				3.0
			Gray to olive stiff sandy silt to blue wet silty clay (FILL).	
		Ш		4.0
				<u>5.0</u>
		mpmpm		6.0
		III		7.0
				8.0
~1.0	S-3			9.0
<1.0				
1.0	S-4	IIII	Black bay mud with glass and pottery chards.	11.0
			Dark gray silty clay with clam shells (native).	12.0
		П		<u> </u>
			Bottom of Excavation = 14 ft.	14.0
				15.0
				- 16.0
				17.0
	,	nuli		18.0
				19.0
				20.0
			·	20.0

Comments:	Sample ID in <b>bold</b> indicates soil sample was submitted to laboratory for analysis.
Water Table Present:	Wetness observed at 7 ft below ground surface.

### . WHEY ASSOCIATES

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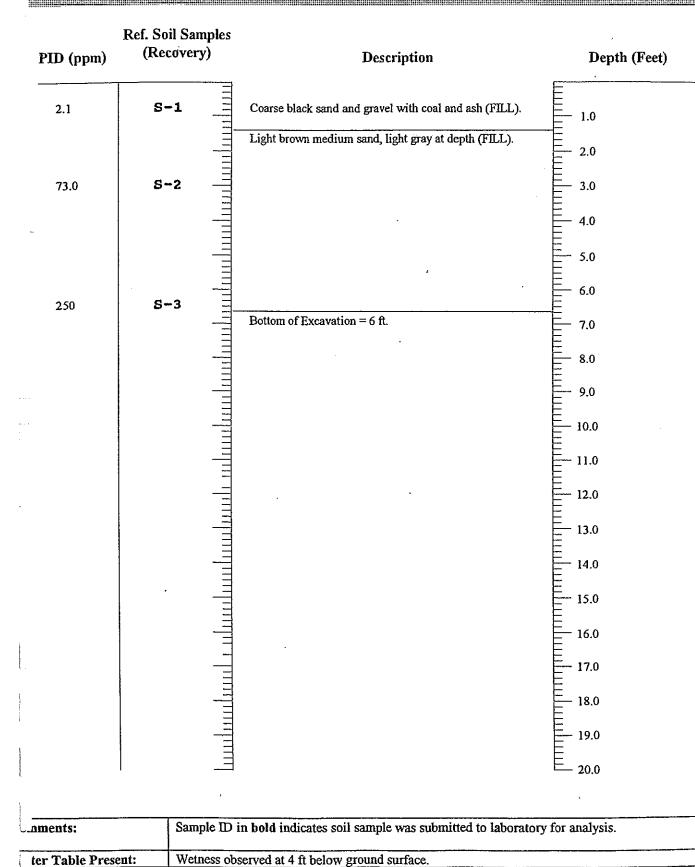
#### TEST PIETOS

Portland Brownheids, Fortland Lemmal BACKHOF: 97-005 femera Roja

desideations a light

tolineya

NG: DOCATION Medical Size



### TEWHEN ASSOCIATES

PROJECT: Portlam PROJECTINO: 974005 DATE: 10-29-5 INVESTIGATOR J Tewh

10-29-98 1 Tewhey

**Ref. Soil Samples** 

### TEST PIT LOG

Portland Brownfields- Portland Terminal BACKHOE, Commercial Paving

### NO: TR-S LOCATION: Middle of Site

CATTON: MIDDLE OF SHO

PID (ppm)	(Recovery)	Description	Depth (Feet)
	<b>6</b> 1		- 1.0
1.5	<b>S-1</b>	Coarse black sand and gravel with coal and ash (FILL). Light brown coarse sand to gray medium sand and	2.0
		silty sand (FILL).	- 3.0
			4.0
			5.0
1.5	.s-2		6.0
			7.0
			9.0
<1.0	<b>S-</b> 3	Black bay mud with glass and pottery chards.	10.0
		Bottom of Excavation = 10.5 ft.	11.0
			12.0
			13.0
			14.0
			15.0
			16.0 17.0
			18.0
			19.0
			20.0

 Comments:
 Sample ID in bold indicates soil sample was submitted to laboratory for analysis.

 Water Table Present:
 Wetness observed at 4 ft below ground surface.

TEWHEY ASSOCIATES TEST PTT LOC
PROJECT: Portland Brownfields Portland Lemmal BACKHOE: Commercial Paying PROJECT NO: 97-005 DATE: ID-29-98 NO: TP-4
DATE: 10-29-98 NO: TP-4 INVESTIGATOR J Tewhey LOCATION: West Sid. of Suc

D (ppm)	(Recovery)	Description	Depth (Feet)
		4-inches loam over brown gravel with lenses of black	1.0
		granular soils and bricks (FILL).	
			2.0
			E
			3.0
• •	0_1	Dence block medium conductible city (ETLL)	
2.0	8-1	Dense black medium sand with silt (FILL).	4.0
	_		5.0
	—		6.0
1.5	S-2	Gray ash (FEL).	
1.2			7.0
<1.0	<b>8-3</b> –	Demolition debris bricks and wood fragments (FILL).	<b>E</b> → 8.0
		<b>-</b>	E
	_		9.0
			E
	–		10.0
			E
			- 11.0
			E
		Black bay mud with glass and pottery chards.	12.0
		7	Ē.
	-	Bottom of Excavation = 12 ft.	13.0
			14.0
			E 150
	_		15.0
	_	<u>=</u>	E 160
			16.0
	_	-	17.0
	_		18.0
			E
	-		19.0
			E
		4	E_ 20.0

Comments:	Sample ID in <b>bold</b> indicates soil sample was submitted to laboratory for analysis.
Water Table Present:	Wetness observed at 7 ft below ground surface.

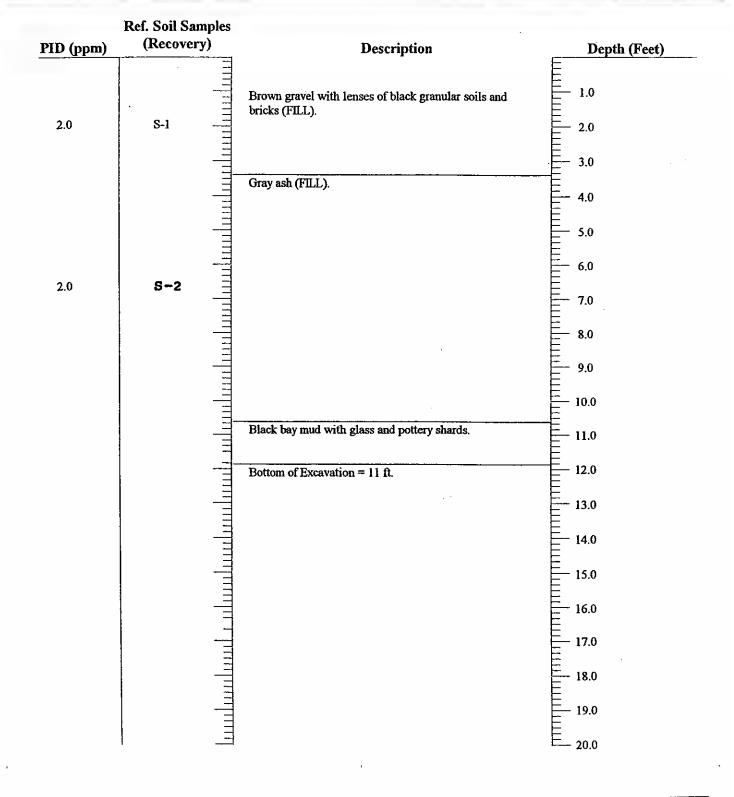
### TEWHEY ASSOCIATES

JEST PITLOG

PROJECT: Portland Brownfields- Portland Terminal BACKHOE: Commercial Paving PROJECTNO: 97-005

PROJECTINO: 97-005 DATE: 10-29-98 INVESTIGATOR J Fewhey

NO: TP-5 LOCATION: West Side of Site



Comments:	Sample ID in <b>bold</b> indicates soil sample was submitted to laboratory for analysis.
Water Table Present:	Wetness observed at 4 ft below ground surface.

### TEWHEY ASSOCIATES

J. Tewhey

Portland Brownfields-Portland Terminal PROJECT: BACKHOE: Commercial Paving

97-005 PROJECT NO: 10-29-98 DATE:

INVESTIGATOR

NO; LOCATION: West Side of Site

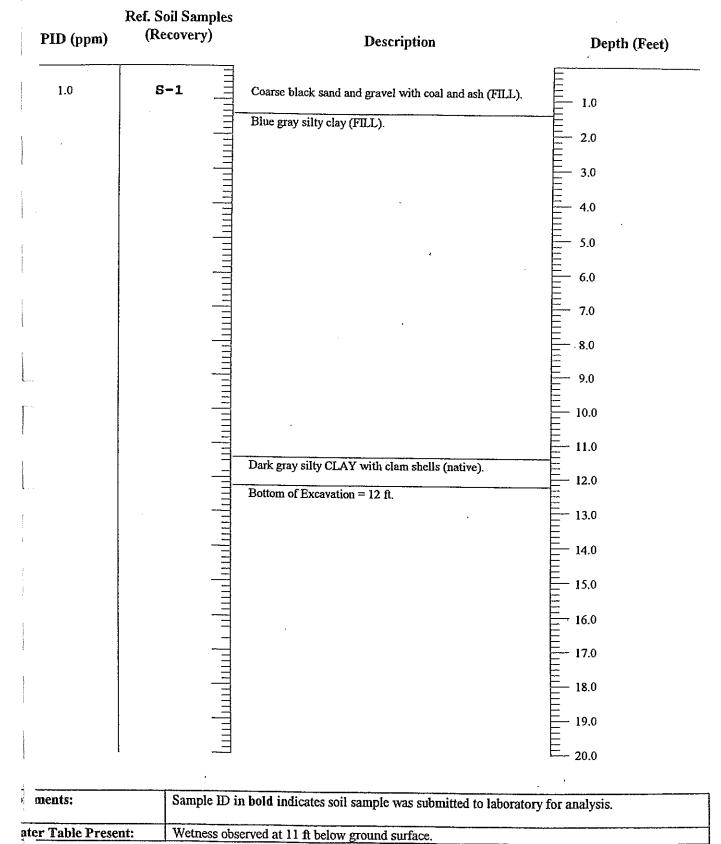
TEST PITLOG

TP-6

PID (ppm)	Ref. Soil Samples (Recovery)	Description	Depth (Feet)
		Coarse black sand and gravel with coal and ash (FILL).	
			- 1.0
1.0	S-1		2.0
		Dark brown, black, silty fine sand (FILL).	3.0
			4.0
2.0	S-2 =	Gray ash (FILL).	5.0
2.0	5-2		6.0
			7.0
2.0	8-3	Black dump refuse glass, wood, pottery, metal, leather, sewerage odor (FILL).	
		icatier, sewerage odor (FILL).	8.0
			9.0
			10.0
		Dark gray silty clay with clam shells (native).	10.0
			- 11.0
		Bottom of Excavation = 11 ft.	12.0
			12.0
			13.0
			Ē
			= 14.0 =
			15.0
			16.0
			17.0
			E
			18.0
			E 19.0
			⊨20.0

Water Table Present:	Wetness observed at 5 ft below ground surface.	

#### Exercised Borner Refress Reprinted Terrores scrifter T. ALLE KILLIJI Campenal Passer arect sp t) i sain 10.19.49 ner. .... TSTICATOR ). Textur LOCATION Sindle of Str



### THEY ASSOCIATES

### TRST FIT LOG

TECT : Portland Brownfichts Purchaid Terminal FECT NO: 97-985 TE: 10-29-98 STREATOR J. Testicy Countral Parme 

### NO: TP-10 LOCATION: Est Subject Site TP-IC

PID (ppm)	Ref. Soil Samples (Recovery)	Description	Depth (Feet)
<1.0	<b>5-1</b>	Coarse black sand and gravel with coal and ash (FILL).	- 1.0
		Light brown medium sand (FILL).	
		Gray silty clay (FILL).	2.0
			3.0
			4.0
2.0	<b>5-</b> 2	Light brown medium sand (FILL).	5.0
2.0	i i i i i i i i i i i i i i i i i i i		6.0
		Bottom of Excavation = 7 ft.	
			8.0
			9.0
			E 10.0
	n lin		11.0
			12.0
			13.0
			14.0
			15.0
			16.0
			17.0
1			E 18.0
			<u> </u>
			20.0
		n bold indicates soil sample was submitted to laborator	

ų <b>си</b> (3,	sample 1D in bold indicates soil sample was submitted to laboratory for analysis.
<u>C-Table Present:</u>	Wetness observed at 5 ft below ground surface.

2000 Test Pit Logs for Phase II Environmental Site Assessment (see Reference 1)

	LEY & DRICH			TE	EST PIT LOG			Te	stl	Pit	No	•	TP101				
Clie Cor	ation	Portland, Maine De Environn	, Maine epartmen nental Pr	equisition t of Transport ojects, Inc. xcavator 0.75	ation Cubic Yard Bucket		E		ther		20 ] Cl	Nov	0				
Gro	und El.:	ft		Location:	See Plan	Groundwater depths/			Rep in./m			Tew	/hey				
	Datum:		<u> </u>	1				Gra	vel	San	d J		Field	Tes			
Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Symbo	l (Dens	sitv/consistency_color_GR	ation and Description OUP NAME, max. particle escriptions, geologic interp	sizo		% Fine %		-	% Fines	Dilatancy Toughness	Plasticity 8			
- 0 -	101-1 0'			>50% cir	nders and coal fragments fine SAND with silt	in black stained matrix of		×.	88	8	8	8		_ <u>_</u>	S		
	101-2 1'	0.8 1.5	SW	Yellow-bro silty clay as	-RAILYARI wen to light brown well g s in 101-3, dry	D FILL- raded SAND with lenses	of		10	80	5	5					
- 2 -			ML	Olive gray	-SAND F	ILL- sand, soft, moist											
	101-3				-CLAYEY SI												
- 4 -	3.5'																
•																	
- 6 -																	
- 8 -																	
U																	
- 10 -		10.0		Bottom of F	Excavation at 10.0 ft.												
					11												
Obstru	ctions:		Rem pit	arks: Run	ning sand caused collap	se of		ield 1 apid	S -	Slow	N	- No	ne		=		
						Toughness	L - Lov - Nonplast	N N ic L	l - Me - Low	dium M	H - Me	l - Hig adium	ph ∖ H-ł		ligh		
at d	<u>Standing</u> epth	Water in C	ompleted ft	_	Diameter (in.) Num	ulders per Approx. Vol. (cu.fl	0	_	est P		ime	_	ns (ft)				
me	asured afte			ours elapsed	12" to 24" over 24" Jai-manual methods of the	= = USCS system as practice	Pil	Len	gth >		dth		4.0 x	12.0			

•		DRICH	TEST PIT LOG						Т	est	Pi	t N	о.	T	P102A		
	Loc Clie Cor Equ	ntractor ipment U	Portland Maine D Environr Ised Ko	, Maine epartment nental Pro omatsu E:	t of Transport ojects, Inc. xcavator 0.75	ation Cubic Yard Bucket	······································		File Dat Wea H&/	e athe A Re	г sṕ	J. Tewhey					)
		und El.: Datum:	ft		Location:	See Plan		Groundwater depths/entry r slowly at 5.0 ft.	ates	(in./	min	.):	Wat	ng			
	Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Symbol	Den:	sity/consistency, color, odor, moisture, optior	, GROL nal des	ion and Description JP NAME, max. particle size, criptions, geologic interpretation	e	% Fine	% Coarse	% Fine	% Fines		Toughness and	Plasticity Lest	Strength
		102A-1 0' 102A-2 1'	0.8	SW	Red-brown 3-4inch thi	-RAILYARD , yellow-brown, ligh ck lenses of dark grau	t brow	(See 101-1) n well-graded SAND with ailbed material as in 102A-1				) 5	5				
	- 2 -		2.5	ML	Olive-gray	-SAN	ID FIL	L-									
	- 4 -				increasingly	y moist with depth											
		102A-3 5'										-			1		
	- 6 -																
	- 8 -	1	1														
	- 10 -		10.0		Pottom of F	xcavation at 10.0 ft.								Ĩ			
			-		Bottoni Of E	xcavalion at 10.0 fl.		r I I I I I I I I I I I I I I I I I I I									
8 Dec Cl				-													
¢F	Obstru			Rema											-		
2~1/PRC 050				pit	urs: Runi	ning sand caused co	ilapse	Dilatancy R - R Toughness L - Lo Plasticity N - Nonplas	tic L	S - - Me - Low	diun N	ı H I-Me	- No I - Hig ediun	gh n ⊢	l - Hig	/h	
		epth asured afte		ft ho	ours elapsed	<u>Diameter (in.)</u> <u>N</u> 12" to 24" over 24"	<u>Bould</u> umber	Approx. Vol. (cu.ft)	<u>Te</u> Dep t Len	est P th ath 2	it D	ime 10 idth	<u>nsic</u> 0.0	ons			<u>IU</u>

	HAI AU	LEY & DRICH			TE	EST PIT LOG				Te	est	Pit	No	),	TPI	021	3		
	Clie Con	ation	Portland, Maine D Environn	, Maine epartment nental Pro	quisition t of Transport ojects, Inc. scavator 0.75	ation Cubic Yard Bucket			File No. 80509-014 Date 20 November Weather Cloudy						r 200	)0			
		und El.: Patum:	ft		Location:								H&A Rep J. Tewhey y rates (in Jmin.): Water moderate						
	Depth (ft)	Sample ID									% Fine a	& Medium Isa	% Fine	% Fines	Ullatancy Totrobose	Plasticity at			
	- 0 -	102B-1 0.5'	0.8	SW	>50% cine medium to	ders and coal fragments fine SAND with silt -RAILYAI n to brown well-graded	s in bla RD FU	ck stained matrix of			5 10								
	2 -					-SAND	FILL-								-	-			
	4 -													1					
	6 -	102B-2 5'																	
			7.0		Bottom of E	excavation at 7.0 ft.									*				
	- - 																		
3 Dec (			- star-t						*****										
506	Destructions: Remarks: ] collapsed					ning sands at 6.0 ft., p	oit	Dilatancy Toughness Plasticity N - N	R - Ra L - Lov	/ M	S - - Me	M	H - Me	- Non - Hìgi dium	י א-	High			
NGINT R-19R		epth asured afte		ft ho	ours elapsed		oulder nber ne USC	Approx. Vol. (cu.ft) = =	Pit Pit	<u>Te</u> Dep Len	est P th gth s	r <u>it D</u> < Wi	ime 7 dth	nsior '.0	V- <u>ns (ft</u> .0 x	1	ligh		

HAI	EY & RICH			TE	ST PIT LOG	6		Te	est	Pit No. TP1(				03					
Proj Loca	ject ation	Union B Portland,	ranch Ac , Maine	quisition				File					9-01						
Clie	nt tractor		-	of Transporta	tion			Date 20 Novema Weather Cloudy								nber 2000			
	ipment U			-	Cubic Yard Bucket			H&A Rep J. Tewhey											
	und El.: Patum:	ft		Location:	See Plan	га	oundwater depths/entry rapid from -HARBOR BOT /ater slow at 3.0 ft.(perche	ТОМ <u>d), г</u>	l DE apid	POS	HT-		er in						
€		Stratum	USCS	Vie	ual Manual Idan	tification	n and Dependenties	Gra		Sa			Field Test						
Depth (ft)	Sample ID	Change Depth (ft)	Symbol	(Densi	tv/consistency, color.	GROUP	n and Description NAME, max. particle size, ptions, geologic interpretation	% Coarse	% Fine	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength			
- 0 -	103-1				RAILYARD				<u>~ ~</u>			6		ˆ	<u>a</u> .	s			
	0' 103-2 1'	0.5	SW	Light brown bed material	well-graded SAND	-	ses of dark granular rail		10	080	5	5							
					-SAN	D FILL-													
- 2 -		2.0	ML	Olive-gray c	layey SILT with sar	id and gr	avel, medium stiff	┼╌┾	+					-+		—			
	103-3 3'				-CLAYEY	( SILT F	ILL-												
- 4 -		4.0	ML	Grav clavev	SILT with sand, ve	ny soft		<u> </u>		ļ									
			14113		-CLAYEY	•	TT T												
- 6 -	103-4 5.5'				-CLAIDI	361 F	ILL-								-				
- 8 -																			
- 10 -	103-5 9.5'	9.5		Black-brown	organic material wi -HARBOR BOTTO											_			
					-narbor boi it		USIT-(FILL)												
	103-6 11'	11.0	CL	presence of c	ean CLAY with silt, clam shell fossils is o ARINE DEPOSIT-	trace me liagnostic	dium sand, medium stiff, c of -NATIVE SOILS-												
- 12 -		12.0			xploration at 12.0 ft.				_	-						-			
Obstru	ictions:		Rem	arks:		· · · · · · · · · · · · · · · · · · ·		Field	Tests	اا ک				1_		=			
						,			M - M Lov	ediur v N	n   Vi-M	H - H lediu	m			linh			
ato	Standing depth	Water in C	L Completed			Boulde lumber	Approx Vol. (cu.ft)	Ī	est		Dime		ionș			ign			
	asured af	ter		ours elapsed	12" to 24" over 24"		- 1	it De 'it Le	-	×W				) x 1	4.0				
	1	NOTE: Soil i	dentificatio	on based on visu		of the USC	CS system as practiced by Ha	ley &	Aldr	ich.	inc.					-			

	.EY & RICH		TEST PIT LOG								t N	o.	T	<b>P1</b>	04		
Proj Loca	ect ation	Union B Portland,		equisition				File				_	9-01				
Clie				t of Transporta	ation			Date			20	NO	vem	vember 2000			
	tractor pment U			ojects, Inc.	Cubic Yard Bucket		ľ	Weather Cloudy									
<b></b>								H&A Rep J. Tewhey									
	Ind El.: atum:	ft		Location:	See Plan		Groundwater depths/entry ra from ash at 6.0 ft., has slight	t she					Water emerges				
(£)		Stratum	uscs	Vis	sual-Manual Ident	lificat	tion and Description	Gra			and E		<u> </u>	Field		t T	
Depth (ft)	Sample ID	Change Depth (ft)	Symbo	(Densi	itv/consistency, color.	GROL	UP NAME, max. particle size, criptions, geologic interpretation)	% Coarse	% Fine		% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength	
- 0 -	104-1 0.5'			Gray coarse	e coal ash mixed with -ASH	a 20% H FIL											
- 2 -	104-2 1.5'	1.5	ML	Olive-gray of	clayey SILT with san -CLAYEY	id, stil ' SIL7	ff F FILL-										
		2.5		Gray, coars	e coal ash					+-	┿						
					-ASH	I FILI	L-										
- 4 -																1	
- 6 -		6.0		Dark brown denosit, tras	to black heterogenec h and clayey SILT	ous mi	ix of ash, organic marine		+					_	_	_	
	104-3 7'				-ASH AND F	EFU	SE FILL-										
- 8 -	104.4					with	trash, glass, ceramic,										
	104-4 9'	9.5	CL		al, shell, wood ean CLAY with silt											_	
- 10 -		10.0		Bottom of E	-MARINE xcavation at 10.0 ft.	DEP	OSIT-										
	:																
Obstru	ictions:		Rem	arks:		<u> </u>	F	ield '	 Fests							=	
								Rapid w M	S - 4 - M - Lov	Slo ediu v	m M - N	lediu	ligh Im			linh	
	lepth	Water in C	f	t	<u>Diameter (in.)</u> N 12" to 24"	Boul lumbe	Iders er Approx. Vol. (cu.ft) = Pit	ב t Dep	est i oth	Pit_	Dim	ensi 10.0	ions )	(ft)			
me	asured aft			ours elapsed	over 24"	f the l	Pi	t Ler ev &	-			1	4.0	) x 1	4.0	4	

		TE	ST PIT LOG					Te	stl	Pit	No		TP	105	
Portland, I Maine Dej	Maine partmen	t of Transporta	tion											200	Ю
		-					W	eat	her		C	loud	y		
sed Koi	matsu E	xcavator 0.75	Cubic Yard Bucket					-				Tew	hey		
ft		Location:	See Plan	Groundy	water d	epths/er	ntry rate	es (i	in./m	in.):	;				
Stratum		Vie	ual Manual Idanti	Footion and			-	T		т—			6		st
		(Densi	ity/consistency, color, (	GROUP NAME	maxr	article siz	ze,	Coarse	6 Fine 6 Coarse	6 Mediun	6 Fine	6 Fines	Dilatancy Oughnes	lasticity	Strength
		Heterogene	ous mix of used brick	sheets of me							٥٠ ١				<u> </u> 0
		in matrix or													
		Solid mass of digging	of wood in matrix of I	black rubber/p	plastic p	revented							-		
3.5		Bottom of E	excavation at 3.5 ft.												
								-							
Wood and		narks:													
assive block				Toug Plast	hness icity		L - Low Ionplastic	⊳L·	l - Me - Low	idium M	⊢ H	ł-Hig ∋dium	µh ⊨ H-		High
<b>Water in Co</b> er	1	īt	Diameter (in.) No 12" to 24"	Boulders umber App =		<u></u>	Pit	<u>Te</u> Dep	est F	Pit D	ime	nsio 3.5	ns (ft	<u>!</u>	
	Portland, Maine De Environm sed Kor ft Stratum Change Depth (ft) 3.5 3.5	Portland, Maine Maine Departmen Environmental Pr sed Komatsu E ft USCS Symbo Oppth (ft) USCS Symbo 3.5 3.5	Union Branch Acquisition         Portland, Maine       Maine Department of Transporta         Maine Department of Transporta       Environmental Projects, Inc.         sed       Komatsu Excavator 0.75 (         ft       Location:         Stratum Change Depth (ft)       USCS Symbol       Vis (Dens structure, I)         Stratum Change Depth (ft)       USCS Symbol       Vis (Dens structure, I)         3.5       Bottom of E       Bottom of E         3.5       Bottom of E       I         Wood and massive block       Remarks:       I         Water in Completed Pit       ft       I	Union Branch Acquisition         Portland, Maine         Maine Department of Transportation         Environmental Projects, Inc.         sed       Komatsu Excavator 0.75 Cubic Yard Bucket         ft       Location: See Plan         Stratum Change Depth (ft)       USCS Symbol       Visual-Manual Identi (Density/consistency, color, 0 structure, odor, moisture, optiona	Portland, Maine         Maine Department of Transportation         Environmental Projects, Inc.         seed       Komatsu Excavator 0.75 Cubic Yard Bucket         ft       Location:       Sce Plan       Ground         Stratum Change Depth (ft)       USCS Symbol       Visual-Manual Identification and (Density/consistency, color, GROUP NAME structure, dor, moisture, opticnal descriptions, structure, dor, matrix of black rubber/r digging         3.5       Bottom of Excavation at 3.5 ft.         Wood and assive block       Remarks: true descriptions, prove classed         Mater in Completed Pit ft       Diameter (in.) Number App 12" to 24"	Union Branch Acquisition         Portland, Maine         Maine Department of Transportation         Environmental Projects, Inc.         sed       Komatsu Excavator 0.75 Cubic Yard Bucket         ft       Location:       Sce Plan       Groundwater d         Stratum Change Depth (ft)       USCS       Visual-Manual Identification and Desc (Density/consistency, color, GROUP NAME; max, peolog structure, odor, moisture, optical descriptions, geolog         J       Heterogeneous mix of used brick, sheets of metal, con in matrix of brown sandy LOAM         -MIXED FILL-       Solid mass of wood in matrix of black rubber/plastic p digging         3.5       Bottom of Excavation at 3.5 ft.         Wood and assive block       Remarks:       Diatancy Toughness Plasticity Or Strength         Water in Completed Pit ft       Diameter (in:)       Number Aprix - Market	Union Branch Acquisition         Portland, Maine         Maine Department of Transportation         Environmental Projects, Inc.         sed       Komatsu Excavator 0.75 Cubic Yard Bucket         ft       Location:       Sce Plan       Groundwater depths/en         Stratum Change Depth (ft)       USCS Symbol       Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max, periode sis structure, edv, mosture, optional descriptions, geologic interpre attructure, edv, mosture, optional descriptions, per pasticity no. N. None Pasticity N. N. None         Water in Completed Pit It       Diameter (in), Number / Apprex. Vol. (cu,ft)	Union Branch Acquisition     File       Portland, Maine     Maine Department of Transportation     D       Environmental Projects, Inc.     W       sed     Konatsu Excavator 0.75 Cubic Yard Eucket     W       ft     Location:     Sce Plan     Groundwater depthsfentry rate       Stratum (Change Depth (ft)     USCS Symbol     Visual-Manual Identification and Description (Densible/consistency, color, GROUP NAME, max, particle size, structure, color, moltance, optional descriptions, geologic interpretation, service, down on struct, service, serv	Union Branch Acquisition     File I       Portland, Maine     Date       Maine Department of Transportation     Environmental Projects, Inc.       sed     Komatsu Excavator 0.75 Cubic Yard Bucket     H8A       ft     Location:     Sce Plan     Groundwater depths/entry rates (I       Stratum Change Depth (ft)     USCS     Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max, particle size, structure, color, molecular, cohornel descriptions, geologic interpretation)     Image: Science of the science of th	Union Branch Acquisition     File No.       Portland, Maine     File No.       Maine Department of Transportation     Date       Environmental Projects, Inc.     Weather       sed     Komatsu Excavator 0.75 Cubic Yard Bucket     Weather       ft     Location:     Sce Plan     Groundwater depths/entry rates (in/m Change Symbol       Stratum Change     USCS     Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max, peride size, structure, odf, moisture, optional descriptions, geologic interpretation     gi gi gi gi gi gi gi       Stratum Change     USCS     Visual-Manual Identification and Description     gi gi gi gi gi gi gi       Stratum Change     In matrix of bown sandy LOAM	Union Branch Acquisition Portland, Maine Environmental Projects, Inc.     File No. Date       Maine Department of Transportation Environmental Projects, Inc.     Weather H&A Rep       ft     Location:     Sce Plan       Stratum Change Symbol     Visual-Manual Identification and Description (Density/consistercy, color, GROUP NAME, max, particle size, structure, cdor, moisture, optional descriptions, geologic interpretation)     Gravef Sat gravity Sat structure, cdor, moisture, optional descriptions, geologic interpretation)       Stratum Change Symbol     Visual-Manual Identification and Description (Density/consistercy, color, GROUP NAME, max, particle size, structure, cdor, moisture, optional descriptions, geologic interpretation)     Gravef Sat gravity Sat structure, cdor, moisture, optional descriptions, peologic interpretation)       3.5     Botrom of Excavation at 3.5 ft.     Herearks:: Distancy Toughness     Filed Tests       3.5     Botrom of Excavation at 3.5 ft.     Distancy Toughness     R. Ragid S. Solid Satisty       Wood and assive block R     Remarks:: Distancy Toughness     Filed Tests L. Low M. Medium District M. Nonpatic L. Low M. Medium Protophese M. Nonpatic L. Low M. Medium District M. Nonpatic L. Low M. Medium Protophese	Union Branch Acquisition     File No.     80       Portland, Maine     Date     20       Baine Department of Transportation     Weather     Commonstration       Environmental Projects, Inc.     Weather     C       sed     Komatsu Excavator 0.75 Cubic Yard Bucket     H&A Rop     J.       ft     Location:     Sce Plan     Groundwater depths/entry rates (in./min.):       Stratum Change     Symbol     Visual-Manual Identification and Description     Grove     Sand       OpensityConsistency, color, GROUP NAME, max, particle size, in matrix, of prown sandy LOAM     -MIXED FILL-     Solid mass of wood in matrix of back nubber/plastic prevented     Imatrix of brown sandy LOAM       -MIXED FILL-     Solid mass of wood in matrix of black nubber/plastic prevented     Imatrix of brown sandy LOAM     Imatrix of black nubber/plastic prevented     Imatrix of bl	Union Branch Acquisition     File No.     80509       Porland, Maine     Date     20 Now       Bernard, Maine     Particle No.     80509       Environmental Projects, Inc.     Meather     Cloud, H&A Rep     J. Tew       A     Location:     Sce Plan     Croundwater depths/entry rates (in.fmin.):       Stratum     USCS     Visual-Manual Identification and Description (Density/consistency, ook; GROUP MAE; max, peride size, and the strate size of metal, concrete blocks in matrix of brown and y LOAM     Image Size size size size size size size size s	Union Branch Acquisition     File No.     80509-014       Maine Department of Transportation     Environmental Projects, Inc.     Visual-Manual Identification and Description     Date     20 November       R     Location:     Sc Plan     Groundwater depths/entry rates (in./min.):     Item by the second se	Union Branch Acquisition Portland, Maine Maine Department of Transportation Environmental Projects, Inc.     File No. 80509-014 Date 20 November 200 Weather Cloudy H&A Rop J. Tewhey       ft     Location: See Plan     Groundwater depthsferity rates (in/min.):       Stratum Change Symbol     Visual-Manual Identification and Description (Densitytomaintery, color, GROUP NAME, max, patient is the articles, soft, mainter, softend description, patients of brown sandy LOAM     Orave Sand     Field Tech Stratum       JSCS     Visual-Manual Identification and Description (Densitytomaintery, color, GROUP NAME, max, patients)     Orave Sand     Field Tech Stratum       Stratum Change Symbol     Visual-Manual Identification and Description (Densitytomaintery, color, GROUP NAME, max, patients)     Orave Sand     Field Tech Stratum of brown sandy LOAM       -MIXED FILL- Solid mass of wood in matrix of black rabber/plastic prevented digging     Bottom of Excavation at 3.5 ft.     Field Tech Stratum of Density of Stratum of Density of Stratum matrix of Density of Stratum of Stratum matrix of Density of Stratum matrix

	HAI ALD	EY & RICH			TE	ST PIT LOG			Te	st	Pi	: No	).	т	P10	)6	
	Proj		Union B Portland,		quisition	, 1990 - <u></u>		F	-ile	No.		8	 0509	9-01	4		
	Clier				t of Transporta	tion			Date	•		20	Nov	vem	ber 2	:000	)
		tractor		•	ojects, Inc.	LION		v	Vea	ther		ſ	loud	łv			
·		pment U			-	Cubic Yard Bucket								•			
	-	-		<u> </u>						Rej				whe			
		atum:	ft		Location:	See Plan	Groundwater depths/en slowly at 4.5 ft. (percl	ntry rai ned)		·.	nin.	.): 1	Vate	er er	uterin	ng p	it
	£		Stratum	11000	1.6	und Blanning fold with			Gra	-		nd	ļļ		ield w 1	Test	:
	Depth	Sample	Change	USCS Symbo			ation and Description		Coarse	Fine	A CORISC		nes	Dilatancy	Toughness	icity	đth
		ID	Depth (ft)		(Densi structure, (	ty/consistency, color, GR odor, moisture, optional d	OUP NAME, max. particle si escriptions, geologic interpre	ze, etation)	0 %	正 2 %	Š N N	% Fine	% Fines	Dilat	Toug	Plasticity	Strength
	0 -	106-1 0'		SW	Brown to da	rk brown well sorted SAND F	AND, mps=1.0 in. TLL-			5 5			5				
		106-2	1.0			-RAILYARD FIL	L- (See 101-1)		-		╞						
-	2 -	1.5'															
			3.0													Ì	
		106-3	3.0		Gray coarse	coal ash					Ī						
	4 -	3.5'				-ASH FI	LL-										
		106-4 4.5'	4.5		Grav-brown	coarse SAND with silt			_		<u> </u>		_			_	
		4.5	5.0			-MARINE DI	EPOSIT-		+			$\left  \right $	+				-
	6 -			ML	Olive-gray c depth; stiff a	layey SILT which becor at 6.0 ft. to soft at 10.0 f -MARINE DI	nes silty CLAY with increa t., fossil clam shells at 11.( EPOSIT-	using ) ft.									
-	8																
	10 -			CL											ĺ		
1			11.5								ļ						
			11.5		Bottom of E	xcavation at 11.5 ft.				1	T			+	$\uparrow$	$\uparrow$	$\neg$
															1		
8 Dec 00																	
	Obstru	ictions:		Rem	arks: Dep	osit at 4.5 ft. represent	e		ield '	Tests	<u> </u>						
TS/8050				form	her bottom sedi	ments of back cove. D	eposisDilatancy	R-R	apid	s-	Slo		1 - N				
OLECT					o n. are interp	reted to be native soils	Plasticity N-	L - Lo Nonplas	tic L		v	M - M		m	H - Hi		
HA	,	Standin	g Water in C	Complete	d Pit	Bo	Dry Strength N - None	e L-Lo			_	m ⊦ Dime	_			ery H	ligh
ĒWĒ	ato	lepth			t	Diameter (in.) Num	ber Approx. Vol. (cu.ft)	Pit	± Deg				1.5		<u>1421</u>		
G: VGINTWWEWVER- IVROJECTS/8050914T.GPJ	me	asured af		ł	nours elapsed	12" to 24" over 24"	=	Pi	t Ler	ngth		Vidth			) x 1	3.0	
8			NOTE: Soil i	dentificatio	on based on visu	al-manual methods of th	e USCS system as practiced	l by Hal	ey &	Aldr	ich,	Inc.					

		LEY & DRICH			T	EST PIT LO	DG		Т	est	Pi	t No	D.	T	P10	7
	Pro	oject	Union B	ranch Ac	quisition				File	No						
	Loc	ation	Portland								•			9-014	-	
	Clie				of Transport	tation			Dat	e		21	Nov	/emt	ber 2	000
		ntractor			ojects, Inc.	<b>~</b>			Wea	athe	r	С	Іеаг			
		lipment U	seu K		cavalor 0.75	Cubic Yard Buc		·····	Н&/					whey		
	1	und El.; Datum:	ft		Location:	See Plan		Groundwater depths/entry ft.; entering pit on top of r	rates ative	(in./ clav	min soi	.): 1  s at 9	Vate	г гај	oid a	t 9.5
	<u> </u>		}		1			01		ave		and	/./J			
	Depth (ft)	Sample	Stratum	USCS	v v	isual-Manual Id	entificat	ion and Description	- i						ield T	
	Dep	ID	Depth (ft)	Symbol	JP NAME, max. particle size,	(u % Coarse	% Fine	Coarse	% Fine	Fines	Dilatancy	Toughness	Plasticity Strength			
	- 0 -	107-1							<u>n) %</u>	% :	% >	8 %	%	<u>ā</u>	<u>₽</u>	8 5
		0'	0.8	SW	Brown wel				_		_					
		107-2	1.0				~		+		╈	+		-+		-+-1
	- 2 -	1.5'		ML	Olive-brow			-								
						-CLAY	YEY SILT	`FILL-								
								-								
	- 4 -				1											
															ļ	
•			c l							ĺ						
	- 6 -															
		107-3														
		7'	Ple       Stratum Change Depth (ft)       USCS Symbol       Visual-Manual Identification and Do (Density/consistency, color, GROUP NAME, m structure, odor, moisture, optional descriptions, get -RAILYARD FILL- (See 101-1)         0.8       SW       Brown well-graded coarse SAND         2       ML       Olive-brown clayey SILT with sand, medium stiff, -CLAYEY SILT FILL-         3       ML       Olive-gray clayey SILT with SAND, soft, moist         4       9.8       CL       Olive-gray lean CLAY with silt and trace medium s stiff, clam shell fossils are diagnostic of native soils         11.0       Bottom of Excavation at 11.0 ft.       -MARINE DEPOSIT- Bottom of Excavation at 11.0 ft.			oft, moist			1				1			
	- 8 -															
				-									ļ			
	ľ														Ì	
	- 10 -	107-4 9.75'	9.8	CL	Olive-grav I	ean CLAY with si	It and trac	e medium cand madium			<b> </b>					
	10				stiff, clam si	hell fossils are diag	gnostic of	native soils								
			11.0		Bottom of F	-MARI	NE DEPC	DSIT-		_						
						101 valion at 11.0 1										
8 Dec 00																
															1	
914T GI	Obstru	ctions	<u> </u>	Boma			·								<u> </u>	J
rsvaoso	obstau	000113.		Tellia	185.			Dilatancy R -	Field 1 Rapid			/ N	- Nor	ne		
ROJECT								Plasticity N - Nonpla	ow A stic L	- Low	r N	1 - Me	- Hig địum	н	- High	
ER~1/PI		Standing	Water in Co	mpleted	Pit	······	Bould	Dry Strength N - None L - I	ow N	1 - Me	diun	n H- Vimer	High	1 V-	Very	High
NEW	at d	epth		ft		<u>Diameter (in.)</u> 12" to 24"	Number	Approx. Vol. (cu.ft)	<u>بار</u> it Dep		<u>, i C</u>		.0	<u>13 [[</u>	<u>u</u>	
G:\GINTWNEWVER~1\PROJECTS\8050814T.GPJ	mea	asured afte			urs elapsed	over 24"		F	it Len	igth :		idth		1.0 x	12.	D
ö		<u> </u>	UTE: Soil id	entification	based on visu	al-manual methods	s of the US	SCS system as practiced by Ha	ley &	Aldri	ch, l	nc.				

)	FA AU	EY& NCH			TE	ST PIT LOG				Те	stl	Pit	No	<b>.</b>	T	'P1	08	
	Clie	ation	Portland, Maine Do	. Maine epartmer	cquisition at of Transporta rojects, Inc.	tion		. •	D	ile I ate /eat			21		9-01 vem	•	2000	)
	Equ	ipment U				Cubic Yard Bucket			н	&A	Rep	נ			whe	у		
		und El.: atum:	ft		Location:	See Plan	Gro fl	oundwater depths/ent owing at 3.5 ft.	cry rat	es (i	<u>ת ו</u> ק	າເກ.)	: 1	Wat	er m	ode	ratel	у
	Depth (ft)		Stratum Change Depth (ft)	USCS Symbo	) (Densi	sual-Manual Identif ity/consistency, color, G	ROUP	NAME max particle size		Grav Coarse	% Coarse	Sar Medium	% Fine	-ines	Dilatancy	Toughness	Plasticity IsaL	Strength
	- 0 -	108-1 0'			structure,	odor, moisture, optional		(101-1)	ation)		%	%	%	%	ä	Tol	Pla	Stre
		108-2 1'	0.8	SW	Yellow-broy granular ma	wn to brown well-grad terial from railbed as i	ed SAN in 108-	ND with thin lenses of			5	80	10	5				
	2 -					-SAND	FILL-											
			<b>1</b>															
	· 4 -																	
	6 -	:			1						-							
			7.0	SW	Gray-brown	well-graded SAND					-		_	_				
	8 -		8.5			-SAND	FILL-											
			د.ه		Bottom of E	xcavation at 8.5 ft.												
			9944 m										1					
Dec 00																		
Ĭ							<u></u>											
	Obstru	ictions:			narks: Wet sed collapse of	flowing sand at 5-6 f test pit.	ìt.	Plasticity N - No	R - Ra L - Low	∕M cL	S - - Me	ediuπ ∕ M	а Н 1-М		ligh m l	н-н	igh	
10201	ato	<u>Standing</u> lepth	Water in C		ed Pit	~	Boulde mber	Dry Strength N - None	L - Lov	<u>v</u> м <u>Те</u>	- Me st F	diuŋ	n H lime	I - Hi e <b>nsi</b>		V - V	ery H	igh
MUNI:		asured aft			hours elapsed	12" to 24" over 24"		= = CS system as practiced b	Pit	Dep Len	gth :		idth	8.5	4.0	x 1	3.0	

	LEY & DRICH			T	EST PIT LOG	;			Te	st	Pit	t No	 D.	T	<b>P1</b>	14	
Loc Clie Cor	ject ation nt itractor ipment U	Portland, Maine De Environn	, Maine epartmer nental Pr	cquisition at of Transport ojects, Inc. axcavator 0.75	ation Cubic Yard Bucket			r V	File Date Veat	the	r	21 C	No Siear	9-01 vem	ber 2	200	D
	und El.: )atum:	ft		Location:	See Plan	Gr	oundwater depths/e eeping at 3-4 ft.	ntry ra	tes (	in./r	nin.				-	ŗ	
Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Symbo	Den:	isual-Manual Identi sity/consistency, color, ( odor, moisture, optiona	GROUP	NAME may podiate at	ze,	% Coarse	% Fine	Medirum 8	k Fine	Fines	Dilatancy	Toughness	Plasticity sal	T
- 0 -		-RAILYARD FILL- (See 101-1) with lenses of gray coarse coal ash 1.0 Light brown to brown well-graded medium SAND -SAND FILL-									~ ~		8				
2 -						-											
4 -					4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1												
6 -	114-2 6.5'	5.5	5.5 Dark olive brown well-graded coarse to medium SAND, -SAND FILL-								30	20	5				
8 -		9.0 -		Bottom of E	ixcavation at 9.0 ft.												
ostru	ctions:			arks: Moi walls, causing	st sands flowed into collapse of pit	pit fron	` Dilatancy Toughness Plasticity N - N Dry Strength N - Nопе	R - Ra L - Low lonplasti	∲ M c L-	S - - Me Low		n ⊢ 1-Me		gh	- Hig / - Ve		igh
	epth asured afte		ہ ft h	ours elapsed		Boulder Imber	r <u>s</u> Approx. Vol. (cu.ft) = =	Pit Pit	<u>Te</u> Depi Lenç	<u>st P</u> ih gth :	<u>rit D</u>	ime ç idth		ons (			

ALC	FY & RICH			. TE	ST PIT LOO	3				Те	st	Pit	No	).	TP1	15	
Proj Loca	ject ation	Union B Portland,		cquisition				·		ile !	10.	-		)509-			
Clie	nt		-	t of Transporta	ation					ate			21	Nove	mber	200	0
1	tractor			ojects, Inc.					N	leat	her		C	lear			
Equi	ipment U	sed Ko	omatsu E	xcavator 0.75	Cubic Yard Bucket					&A				Tew			
	und El.: Datum:	ft		Location:	See Plan	G	roundwater de rapidly at 1.0 f	epths/ent ft. (from c	ry rat culver	es (i t)	n./n	nin.)	: 7	Vater	enter	ing p	oit
€		Stratum		16						Grav		Sar		-		i Tes	t
Depth (ft)	Sample ID	Change Depth (ft)	USCS Symbo	l (Dens	sual-Manual Iden ity/consistency, color, odor, moisture, option	GROUP	PNAME max n	orticlo size	, ation) i	% Coarse	% Coaree	% Medlum	% Fine	% Fines	Toughness	Plasticity	Strength
- 2 -				Note: A log	-HETEROGEN				× •								
		3.5		Bottom of E	Excavation at 3.5 ft.												
Obstru	ictions:		Rem	arks:						eld T			<u> </u>				
							Dilatancy Toughness Plasticity Dry Strength	N - No	R - Ra L - Low Inplasti L - Lov	/ M	- Me Low	edium / M	i H I-Me		ћ Н-I		ligh
		Water in C	omplete	d Pit	Diamatar (in )	Bould	ers	1		_				_	ns (ft)		
	lepth asured aft	er	f	t nours elapsed	<u>Diameter (in.)</u> 12" to 24"	<u>uinder</u>	Approx. Vol =	<u> (cu.tt)</u>		Dept				3.5	1.0 x	R U	
					over 24" al-manual methods o	of the US	 SCS system as p	racticed h			-				1.U X		-

Project     Usion Expand: Acquisition     File No.     \$5509-014       Location     Portland, Maine     Data     21 November 2000       Client     Maine Department of Transportation     Weather     Clear       Equipment Used     Konntsu Excavator 0.75 Cubic Yard Bucket     HEA Rep     J. Towhey       Ground B1:     ft     Location:     See Plan     Groundwater deptha/entry rates (trutnin);       El Deturi     Stratum     USCS     Visual-Manual Identification and Description     Image: Stratum and Description       0     0.5	HA	LEY & DRICH			TE	ST PIT LOG	}		Т	es	t F	Pit	No	).	T	<b>P1</b> 1	16	
Location       Portland, Maine         Client       Maine Department of Transportation       Date       21 November 2000         Contractor       Equipment Used       Komatsu Excavator 0.75 Cable Yard Bucket       Weather       Clart         Equipment Used       Komatsu Excavator 0.75 Cable Yard Bucket       Ground Ed::       ft       Location:       See Plan       Ground Ed::       H&A Rop       J. Tewhey         ED abum:       Stratum       USCS       Visual-Manual Identification and Description       Since       Sinc		-	Union B	ranch Ao	quisition				File	) N	о.		8	0509	9-01	4		
Dimmer Department of Transportation       Weather Clear         Equipment Used       Konatau Excavator 0.75 Cubic Yard Bucket       Weather Clear         Eguipment Used       Location:       See Plan       Groundwater depthalentry rates (n./min.):         El. Datum:       Contractor       See Plan       Groundwater depthalentry rates (n./min.):         El. Datum:       USCS       Visual-Manual Identification and Description       Groundwater depthalentry rates (n./min.):         El. Datum:       Otice Change       Sandt       Field Test         0       0.5       Result/YARD PILL- (See I01:1)       Image: Sec Plan       Origin Pile Contractor         0       0.5       Otice brown to olive gray clayey SILT with sand and gravel, medium off and becoming not at depth       S S S S S 20 Go       Image: Sec Plan         2       Olive brown to olive gray clayey SILT FilL-       Image: Sec Plan       S S S S S 20 Go       Image: Sec Plan         4       9.5       CL-ML       Native clay soils       MARINE DEPOSIT-       Image: Sec Plan       Sec Plan         10       9.5       Remarks:       Clayey sit collapsed into pit, bit       R. Rept S - Sice N - Neeter Traphosity V. Vin Height Traphosis         10									Dat	e						•	0000	
Equipment Used     Konatsu Excavator 0.75 Cubic Yard Bucket     H&A Rep     I. Tewhey       Ground EI:     ft     Location:     See Plan     Groundwater depths/emty rates (in/min.):       EL Datum:     Stratum     USCS     Visual-Manual Identification and Description (Operativonsitier, cotor, GROUP NAME, nux, particle size, structure, cotor, moldster, optical descriptions, geogla interpretation     Grave Sand Sign grave and size and				-	-	ation										UCI 2	.000	,
(Pick Rep 7)       (Pi						Outra Valid Develor			We	ath	er		C	lear	•			
EL Datum:       Grave       Sand       Field Test         2       Sample Change Symbol       Visual-Manual Identification and Description (Dentifyconsistersy, coto, GROUP NAME, max, parkide size, structure, odd, mosture, optional description, geologic interpretation, geologic interpretatinter, geologic interpretation, geologic interpretation,							·							Te	whe	у 		
End       Strature       USCS Depth (ft)       Visual-Manual Identification and Description (Density/consistency, color, GROUP NME, max, particle size, at curve, color, color, GROUP NME, max, particle size, at curve, color, c			ft		Location:	See Plan	Gro	oundwater depths/entr	y rates	in) :	./m	in.)	:					
End       Sample       OBCS Depth (ft)       OUSCS Symbol       Outwall-Manual Identification and Description (Depth (ft), Symbol       Outwall-Manual Identification and Descriptions, geodopic interpretation (Depth (ft), Symbol       Outwall-Manual Identification and gravel, (Structure, doc, ft), Symbol       Symbol       Symbol       Outwall-Manual Identification and gravel, (Structure, doc, ft), Symbol       Symbol       Symbol       Symbol       Outwall       Symbol	ŧ		Stratum						Gr	ave							Test	t 1
0.5	pth		Change	Symbo	) (			•	80	Ð	arse	l Hig	g	les	Incy	hnes	city	f
0.5		U	Depth (ff)		(Dens	ity/consistency, color, odor, moisture, option	GROUP I al descrip	NAME, max. particle size, ptions, geologic interpretat	ion) 👷	% Fin	0 %	% Me	% Fir	% Fir	Dilate	Toug	plasti	Stren
2       1.0       Olive brown to olive gray clavey SLT with sand and gravel, medium stiff and becoming soft at depth       5	- 0		0.5								Ě		-	Ŭ	=			-
- 2       Offive brown to olive gray clayey SILT with sand and gravel, medium stiff and becoming soft at depth       5																		
Obve brown to olive gray clayey SLT with sand and gravel, medium stiff and becoming soft at depth     5     5     5     5     5     20     60       -4     -6     -			1.0															
- 4       - 4       - <td>- 2</td> <td>-</td> <td></td> <td></td> <td>Olive brown medium stif</td> <td>n to olive gray clayey f and becomimg soft</td> <td>/ SILT wi at depth</td> <td>ith sand and gravel,</td> <td>5</td> <td>5</td> <td>5</td> <td>5</td> <td>20</td> <td>60</td> <td></td> <td></td> <td></td> <td></td>	- 2	-			Olive brown medium stif	n to olive gray clayey f and becomimg soft	/ SILT wi at depth	ith sand and gravel,	5	5	5	5	20	60				
- 6     -     9.5       - 10     9.5       - 10     -       - 10     -       - 10     -       - 10     -       - 12     12.0       Bottom of Excavation at 12.0 ft.     -       Distancy     R-Rapid S-Slow N-None       Distancy     R-Rapid S-Slow N-None       Toughness     L-Low M-Medium H-High       Obstructions:     Remarks:: Clayey silt collapsed into pit, bit       Batancy     R-Rapid S-Slow N-None       Toughness     L-Low M-Medium H-High       Obstructions:     Boulders       Standing Water in Completed Pit measured after     Diameter (in.) Number Approx. Vol. (cu.ft)       Pit Length XWidth     12.0 Pit Length XWidth						-CLAYEY	SILT FI	ILL-	Ì.					ľ				
- 6     -     9.5       - 10     9.5       - 10     -       - 10     -       - 10     -       - 10     -       - 12     12.0       Bottom of Excavation at 12.0 ft.     -       Distancy     R-Rapid S-Slow N-None       Distancy     R-Rapid S-Slow N-None       Toughness     L-Low M-Medium H-High       Obstructions:     Remarks:: Clayey silt collapsed into pit, bit       Batancy     R-Rapid S-Slow N-None       Toughness     L-Low M-Medium H-High       Obstructions:     Boulders       Standing Water in Completed Pit measured after     Diameter (in.) Number Approx. Vol. (cu.ft)       Pit Length XWidth     12.0 Pit Length XWidth																		·
- 8       -       9.5         - 10       -       9.5         - 10       -       0.5         - 12       12.0       -         0 bstructions:       Remarks:       CL-WL         Native clay soils       -         - 12       12.0         Bottom of Excavation at 12.0 ft.       1         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Field Tests         Distructions:       Native clay soils did not.         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Distructions:         Standing Water in Completed Pit at depth       ft         measured after       hours elapsed	- 4	-																
- 8       -       9.5         - 10       -       9.5         - 10       -       0.5         - 12       12.0       -         0 bstructions:       Remarks:       CL-WL         Native clay soils       -         - 12       12.0         Bottom of Excavation at 12.0 ft.       1         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Field Tests         Distructions:       Native clay soils did not.         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Distructions:         Standing Water in Completed Pit at depth       ft         measured after       hours elapsed											•		ľ					
- 8       -       9.5         - 10       -       9.5         - 10       -       0.5         - 12       12.0       -         0 bstructions:       Remarks:       CL-WL         Native clay soils       -         - 12       12.0         Bottom of Excavation at 12.0 ft.       1         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Field Tests         Distructions:       Native clay soils did not.         Distructions:       Remarks:         Clayey silt collapsed into pit, br       Distructions:         Standing Water in Completed Pit at depth       ft         measured after       hours elapsed																		
9.5     CL- ML     Native clay soils       -10     9.5     CL- ML       12     12.0       Bottom of Excavation at 12.0 ft.       Obstructions:     Remarks:       Clayey silt collapsed into pit, bunch       Diatancy       Remarks:       Clayey silt collapsed       Diatancy       Remarks:       Clayey silt collapsed       Diatancy       Remarks:       Remarks:       Clayey silt collap	- 6	-								İ				ĺ				
9.5     Image: CL-ML     Native clay soils     Image: Marking Marker in Completed Pit measured after     Image: Clayer in Clayer											Ì							
9.5     Image: CL-ML     Native clay soils     Image: Marking Marker in Completed Pit measured after     Image: Clayer in Clayer																		
9.5     Image: CL-ML     Native clay soils     Image: Marking Marker in Completed Pit measured after     Image: Marker in Completed Pit measured after     Image: Marker in Completed Pit measured after     Image: Clayer grammed after     Image:													ļ	ļ				
10     Image: CL-ML     Native clay soils     -MARINE DEPOSIT-     Image: CL-ML     Native clay soils       -12     12.0     Bottom of Excavation at 12.0 ft.     Image: CL-ML     Bottom of Excavation at 12.0 ft.     Image: CL-ML     Image: CL-M	- 8 -																	
10       Image: CL-ML       Native clay soils       -MARINE DEPOSIT-       Image: CL-ML       Native clay soils         -12       12.0       Bottom of Excavation at 12.0 ft.       Image: CL-ML       Bottom of Excavation at 12.0 ft.       Image: CL-ML       Image: CL-L-ML       Image: CL-L-ML       Image																		
10       Image: cL-ML       Native clay soils       -MARINE DEPOSIT-         12.0       Image: cL-ML       Native clay soils       -MARINE DEPOSIT-         12.0       Image: cL-ML       Bottom of Excavation at 12.0 ft.       Image: cL-ML         Obstructions:       Remarks:       Clayey silt collapsed into pit, but native clay soils did not.       Field Tests         Obstructions:       Remarks:       Clayey silt collapsed into pit, but native clay soils did not.       Field Tests         Distancy       R-Rapid       S-Slow N-None native clay soils did not.       Distancy       R-Rapid S-Slow N-None native clay soils did not.         Standing Water in Completed Pit at depth       Diameter (in.)       Number       Approx. Vol. (cu.ft)       Pit Demetricing (ft)         Diameter (in.)       Number       Approx. Vol. (cu.ft)       Pit Depth       12.0         Very 24"       =       Pit Depth       12.0       Pit Length x Width       4.0 x 14.0			05															
- 12     12.0     Bottom of Excavation at 12.0 ft.     Image: second s	- 10 -		ۍ تر													-		
- 12     12.0     Bottom of Excavation at 12.0 ft.     Bottom of Excavation at 12.0 ft.       Obstructions:     Remarks: Clayey silt collapsed into pit, but native clay soils did not.     Field Tests       Dilatancy     R-Rapid S-Slow N-None Toighness     L-Low M-Medium H-High Plasticity N-NoneJastic L-Low M-Medium H-High Pry Strength N-None L-Low M-Medium H-High Pry Strength N-None L-Low M-Medium H-High Pry Strength N-None L-Low M-Medium H-High Plasticity N-NoneJastic L-Low M-Medium H-High Plasticity N-NoneJastic L-Low M-Medium H-High Pry Strength N-None L-Low M-Medium H	ł			CL MI	Nativa olou (													
- 12     12.0     Bottom of Excavation at 12.0 ft.     Bottom of Excavation at 12.0 ft.       Obstructions:     Remarks: Clayey silt collapsed into pit, but native clay soils did not.     Field Tests       Dilatancy     R-Rapid     S-Slow       Dilatancy     R-Rapid     S-Slow       Dilatancy     R-Rapid     S-Slow       Toughness     L-Low     M-Medium       H-High     Plasticity     N-None       Dry Strength     N-None     L-Low       Mathematical depth     ft     Diameter (in.)       Number     Approx. Vol. (cu.ft)     Pit Depth       Pit Length x Width     4.0 x 14.0				CL- ML	INALIVE CIAY :						ĺ							
Bottom of Excavation at 12.0 ft.       Bottom of Excavation at 12.0 ft.         Obstructions:       Remarks: Clayey silt collapsed into pit, but native clay soils did not.       Field Tests         Dilatancy       R-Rapid       S-Slow         Dilatancy       R-Rapid       S-Slow         Toughness       L-Low       M-Medium         L-Low       M-Medium       H-High         Plasticity       N-Nonplastic       L-Low         Matter in Completed Pit       Boulders       Test Pit Dimensions (ft)         Measured after       hours elapsed       Number       Approx. Vol. (cu.ft)         Pit Length x Width       4.0 x 14.0						-MARINE	DEPOS	IT-				Ì						
Obstructions:       Remarks:       Clayey silt collapsed into pit, bunative clay soils did not.       Field Tests         Dilatancy       R - Rapid       S - Slow       N - None         Dilatancy       R - Rapid       S - Slow       N - None         Dilatancy       R - Rapid       S - Slow       N - None         Dilatancy       N - Nonplastic       L - Low       M - Medium       H - High         Plasticity       N - Nonplastic       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       L - Low       M - Medium       H - High         Dry Strength       N - None       Approx. Vol. (cu.ft)       Test Pit Dimensions (ft)         Neasured after       hours elapsed       Over 24"       =       Pit Length x Width       4.0 x 14.0	- 12 -	-	12.0		Bottom of E	xcavation at 12.0 ft.				+	_	-+	+		-+-			
Obstructions:       Remarks:       Clayey silt collapsed into pit, bu native clay soils did not.       Field Tests         Dilatancy       R - Rapid       S - Slow       N - None         Toughness       L - Low       M - Medium       H - High         Plasticity       N - Nonplastic       L - Low       M - Medium       H - High         Obstructions:       Standing Water in Completed Pit       Boulders       Test Pit Dimensions (ft)         Measured after       hours elapsed       12" to 24"       =       Pit Length x Width       4.0 x 14.0													Ì					
Obstructions:       Remarks: Clayey silt collapsed into pit, but native clay soils did not.       Field Tests         Dilatancy       R - Rapid       S - Slow       N - None         Toughness       L - Low       M - Medium       H - High         Plasticity       N - None       L - Low       M - Medium         Toughness       L - Low       M - Medium       H - High         Plasticity       N - None       L - Low       M - Medium         Test Pit Dimensions (ft)       Diameter (in.)       Number       Approx. Vol. (cu.ft)         at depth       ft       Diameter (in.)       Number       Approx. Vol. (cu.ft)         12" to 24"       =       Pit Depth       12.0         Pit Length x Width       4.0 x 14.0	:																	
Obstructions:       Remarks:       Clayey silt collapsed into pit, bunative clay soils did not.       Field Tests         Dilatancy       R - Rapid       S - Slow       N - None         Toughness       L - Low       M - Medium       H - High         Plasticity       N - Nonplastic       L - Low       M - Medium         Standing Water in Completed Pit       Boulders       Test Pit Dimensions (ft)         at depth       ft       Diameter (in.)       Number       Approx. Vol. (cu.ft)         12" to 24"       =       Pit Depth       12.0         Pit Length x Width       4.0 x 14.0																		
Obstructions:       Remarks: Clayey silt collapsed into pit, but native clay soils did not.       Field Tests         Dilatancy       R - Rapid       S - Slow       N - None         Toughness       L - Low       M - Medium       H - High         Plasticity       N - Nonplastic       L - Low       M - Medium         Optimized provided pit       Diameter (in.)       Number       Approx. Vol. (cu.ft)         at depth       ft       Diameter (in.)       Number       Approx. Vol. (cu.ft)         12" to 24"       =       Pit Depth       12.0         Pit Length x Width       4.0 x 14.0		<u> </u>		·	<u> </u>			·····										
Boulders     Dilatancy     R - Rapid     S - Slow     N - None       Toughness     L - Low     M - Medium     H - High       Plasticity     N - Nonplastic     L - Low     M - Medium     H - High       Plasticity     N - Nonplastic     L - Low     M - Medium     H - High       Ory Strength     N - None     L - Low     M - Medium     H - High       At depth     ft     Diameter (in.)     Number     Approx. Vol. (cu.ft)     Pit Depth     12.0       measured after     hours elapsed     over 24"     =     Pit Length x Width     4.0 x 14.0	Obstr	uctions:				vey silt collapsed int	to pit, bu			_								
Standing Water in Completed Pit at depth     Boulders     Test Pit Dimensions (ft)       Diameter (in.)     Number 12" to 24"     Approx. Vol. (cu.ft)     Pit Depth     12.0       Pit Length x Width     4.0 x 14.0				hadiv	e ciay solls di	u not.		Toughness L	- Low	м -	Med	dium	1	1 - Hi	igh			
Standing Water in Completed PitBouldersTest Pit Dimensions (ft)at depthftDiameter (in.)NumberApprox. Vol. (cu.ft)measured afterhours elapsedover 24"=Pit Depth12" to 24"=Pit Length x Width4.0 x 14.0																		igh
at depth     ft     Diameter (in.)     Number     Approx. Vol. (cu.ft)       measured after     hours elapsed     12" to 24"     =       over 24"     =     Pit Depth     12.0       Pit Length x Width     4.0 x 14.0			g Water in C	Complete	d Pit	Diameter (in )		rs			_							
neasured area nours erapsed over 24" = Pit Length x Width 4.0 x 14.0	at	•	tor		-	12" to 24"	umber										10	
NOTE: Soll Identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.	m						f the Lier			-					4.0	X 14	+.0	

	EY & DRICH			TE	ST PIT LO	3		Τe	est	Pit	N	<b>D</b> .	ſ	<b>P1</b> 1	17	<u> </u>
Clier Con	ation nt tractor	Portland, Maine Do Environn	Maine epartmen nental Pr	equisition t of Transporta ojects, Inc.				File Date Wea	•		21			i4 iber 2	2000	)
	ipment U und El.:	ft ft	omatsu E	Location:	Cubic Yard Bucket		Groundwater depths/entry ra	H&A ates (		•			whe	-		
	atum:		 				slowly at 5.0 ft.	Gra		Sa		<u></u>	<u> </u>	Field		
Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Symbo	on and Description P NAME, max. particle size, riptions, geologic interpretation)	% Coarse	% Fine		% Fine	% Fines	Dilatancy	SS	Plasticity	Strength			
- 0 -	117-1 0.5'	1.0		(See 101-1).												
- 2 -	117-2 3'	5.0	und, mps≈ 0.25 in. with L-		5 10	80	5									
- 6 -	117-3 7.5'			Olive-gray c	elayey SILT with sar -CLAYEY		FILL-		5	5	30	60				
		9.5		Bottom of E	xcavation at 9.5 ft.											
Obstru	ictions:	•		arks: Hole ey silt fill.	e collapsed due to f	ailure (	51	rtic Ł	- S - M - Lov	Slov ediur	n ł M−M	H - H lediu	ım	H - Hig V - Ve		igh
	lepth asured aft		f	ours elapsed	12" to 24" over 24"	Bould	<u>ters</u> r <u>Approx. Vol. (cu.ft)</u> = Pi	<u>T</u> t Dep it Ler	est ( oth ngth	Pit C × W	Dime /idth	ensi 9.5	ions			

HAI ALL	FY & RICH			TE	ST PIT LOG				Te	est	Pi	t N	0.	T	<b>P1</b>	18	
Ргој	ect	Union B	ranch Ac	quisition	<u> </u>		<u> </u>		File	No		5	050	09-01			
Loca	ation	Portland,	, Maine						_								
Clie	nt			of Transporta	tion				Date	2		21	NC	oven	iber (	200(	)
	tractor			ojects, Inc.				'	Nea	the	r	(	lea	Г			
Equi	pment U	sed Ko	omatsu E>	cavator 0.75	Cubic Yard Bucket				1&A	Re	р	J	. Те	whe	y		
	ind El.: atum:	ft		Location:	See Plan	Gr Sc	roundwater depths eeping at 6.5 ft.	/entry ra	tes (	(įn./i	nin	.):	Wa	ter s	lowly	y	
Û.		<u></u>				1		-	Gra	vel		and	Τ		Field	Tes	t
Depth (ft)	Sample		USCS	Vis	sual-Manual Identifi	icatio	n and Description	ר	I'se	6	arse	% Medium % Fine	1 8	ğ	Toughness	ţ,	f
	ID	Depth (ft)		(Dens	ity/consistency, color, G odor, moisture, optional	ROUP descri	NAME, max. particle	size, pretation)	% Coarse	% Fine	Ö :	é Me	% Fines	Dilatancy	- ugh ough	Plasticity	Strength
- 0 -					y loam with organics a					-					-	<u> </u>	<u> </u>
		0.5		ħ −	-SILT	FILL-		[	$\square$	- -		+	$\vdash$				
													1				
- 2 -											I						
	118-1 2.5'			Olive-brown medium stif	n to olive-gray clayey S f to soft with depth	SILT F	FILL, stiff, becomim	g									
					-CLAYEY S	SILT F	ILL-					ĺ			1		
- 4 -																	
																Ì	
- 6 -											Í						
Ŭ		6.5															
				Olive-brown	silty SAND, $mps = 1$ .												
	118-2 7.5'				-SAND	FILL-						Ì					
- 8 -	1.5																
		8.5	SM	Black silty S	AND			·	10 :	5 5	15	40	25		-+		
		9.0		Bottom of E	xcavation at 9.0 ft.				-	-							
							·			ľ							
																ľ	
				1													
					·····												
Obstru	ictions:			arks: Clay	vey silt fill collapsed u	ipon	Dilatar		ield '								ゴ
			settir	ig for a few m	inutes.		Dilatancy Toughness	L-La		M - M	ediu	m	H-+	lone ligh			
	·			<u> </u>			Plasticity N Dry Strength N - No	l-Nonplas	tic L bw !	Lo M - M	w Iediu	M-N im I	Aedia H - H	ım ligh	H - H V - V	igh ery H	ligh
		Water in C	Completed	l Pit	-	Boulde	ers				_			ions			-
	iepth asured afi		ft		<u>Diameter (in.)</u> <u>Nur</u> 12" to 24"	mber	Approx. Vol. (cu.: =		t Dej				9.0			• •	
me				ours elapsed	over 24" al-manual methods of t	he US(	= CS system as practic		t Lei	-				4.(	) x 1	2.0	

	LEY & DRICH			TE	EST PIT LOO	3		Τe	est I	Pit I	NO.		TP1	19	
Pro	ject	Union B	ranch Ac	quisition				File	No	<u> </u>	80	 509-(			
Loc	ation	Portland,	Maine												
Clie	ent				ation			Date	•		11	Nover	nber	2000	)
	ntractor			•				Wea	ther		Clo	ear			
Equ	ipment U	sed Ko	omatsu Ex	cavator 0.75	Cubic Yard Bucket			H&A	Rep	)	J. '	Tewh	ey		
	und El.: Datum:	ft	i	Location:	See Plan		Groundwater depths/entry r from ash at 6.0 ft.	ates (	(in./m	nin.):	W	ater	emerį	ges	
ŧ		Stratum						Gra	vel	Sanc			Field	Test	 t
Depth (ft)		Change					•	Coarse	e e		•	Se Do	ness	lity.	£
-	טו	Depth (ft)		(Dens	ity/consistency, color, odor, moisture, option	, GROU nal desc	IP NAME, max. particle size, criptions, geologic interpretation	Ö %	% Fine % Coarse	% Medium	E E	% Fines Dilatancv	Toughness	Plasticity	Strength
- 0		0.3							<u>a.</u>					<u> </u>	
	119-1														
	1'	1.5		Light brown	n to brown well-grad	led SAI	ND, $mps = 1.0$ in.								
- 2	119-2 2'	TEST PIT LOG         TEST PIT LOG         TEST PIT LOG         Maine Department of Transportation         Maine Department of Transportation         actor Environmental Projects, Inc.         ment Used Komatsu Excavator 0.75 Cubic Yard Bucket         JEL: ft Location: See Plan Groundwater d from ash at 6.1         USCS       Visual-Manual Identification and Desc.         Struture, odor, moisture, optional descriptions, geologi         ID Depth (ff)         O.3         ILight brown to brown well-graded SAND, mps= 1.0         SAND FILL-         0.3       Cray coarse coal ash with lenses of black railroad yard light brown sand (as in 119-1)         119-2       3.0       -ASH FILL-         119-3       Gray coarse coal ash with mixed trash, all stained jet b glass, brick, ceramics, leather, metal, wood         ASH AND REFUSE FILL-         119-4       7       9.5         9.5       Bottom of Excavation at 9.5 ft.         Distance, cold water in pit has prominent petroleum sheen; no petroleum odor Distance, Cold weather may inhibit color)         Distance, Cold weather may inhibit color)		L/ ck railroad yard soils and											
		3.0		4		H FILL	~,		_						
							/								
- 4				f .											
	119-3 4.5'								-						
				Gray coarse	coal ash with mixed	l trash,	all stained jet black,								
- 6		Union Branch Acquisition         n       Portland, Maine         Maine Department of Transportation         Stor       Environmental Projects, Inc.         ent Used       Komatsu Excavator 0.75 Cubic Yard Bucket         EL:       ft       Location:       See Plan       Groundwater of from ash at 6.         mple       Stratum       USCS       Visual-Manual Identification and Desc (Density/consistency, color, GROUP NAME, max, structure, odor, moisture, optional descriptions, geolog         ID       Depth (ft)       USCS       Visual-Manual Identification and Desc (Density/consistency, color, GROUP NAME, max, structure, odor, moisture, optional descriptions, geolog         ID-       Opti (ft)       USCS       Symbol         Ight       Light brown to brown well-graded SAND, mps= 1.0         Gray coarse coal ash with lenses of black railroad yard light brown sond (as in 119-1)       -ASH FILL-         9.3       Gray coarse coal ash with mixed trash, all stained jet the glass, brick, ceramics, leather, metal, wood       -ASH AND REFUSE FILL-         9.4       9.5       Bottom of Excavation at 9.5 ft.       Distance         ns:       Remarks:       Standing water in pit has provincement perfoleum sheer; no petroleum doar Distancy Touphoess (cold weather may inhibit odor)       Distance         ns:       Remarks:       Standing water in pit has petroleum doar Distancy Toup													
Ū		Union Branch Acquisition         n       Portland, Maine         Maine Department of Transportation         tor       Environmental Projects, Inc.         ent Used       Komatsu Excavator 0.75 Cubic Yard Bucket         El:       ft       Location:       See Plan       Groundwater of from ash at 6.         mple       Stratum Change       USCS       Visual-Manual Identification and Desc (Densily/consistency, color, GROUP NAME, max, J         g-1       0.3       Light brown to brown well-graded SAND, mps= 1.0         g-2       Gray coarse coal ash with lenses of black railroad yard light brown sand (as in 119-1)         g-3       3.0       -ASH FILL-         g-3       Gray coarse coal ash with mixed trash, all stained jet b glass, brick, ceramics, leather, metal, wood         g-4       9.5       Bottom of Excavation at 9.5 ft.         stratum projected Pit       Diameter (in.)       Number Approx. Vor Toughness (cold weather may inhibit door)         g-4       6.0       ft       Diameter (in.)       Number Approx. Vor Toughness (cold weather may inhibit door)		SE FILL-							Í				
	119-4														
- 8 -															
	j l														
		0.5					. •								
		9.5		Bottom of E	xcavation at 9.5 ft.					+	╞	<u> </u>		+	
															Ì
									Ì						
Obstr	uctions:				ding water in pit ha	IS		Field	Tests		<u> </u>	· ·		U	
			prom (cold	ment petroleu weather may	m sheen; no petrole inhibit odor)	eum od		Rapid Sw: M	S-: / - Me			None - High			
				·				stic L	- Low	М-	Me	dium	H - H V - V		igh
	Standing	Water in C	ompleted	Pit			<u>ders</u>	_				sion		.,	-
1	depth					<u>tumber</u>	= P	it Dep			-	.5			
me					over 24"	of the 14		it Ler				4.	0 x 1	4.0	

HAL ALD	EY & RICH			TE	ST PIT LOG	6		т	es	st F	Pit	No	).	TP	120	
Ргој			ranch Ac	quisition			· · · · · · · · · · · · · · · · · · ·	File	N e	o <i>.</i>		80	)509	-014		
Loca		Portland,	Maine					Dat	~						200	
Clier			-	of Transporta	ntion				e			21	NON	embe	r 200	Ю
	tractor			ojects, Inc.				Wea	ath	er		C	lear			
Equi	pment U	sed Ko	omatsu Ex	cavator 0.75	Cubic Yard Bucket			H&,	A F	lep		J.	Tew	hey		
	ind El.: atum:	ft		Location:	See Plan		Groundwater depths/entry rapidly from 6-7 ft.	rates	(iņ	./m	in.):	: V	Vate	r ent	ering	pit
(£)		Strature						Gr	ave	+	San	đ		_	d Tes	st
	Sample		USCS Symbol				ion and Description	l se		arse	Engl	6	ജ	Dilatancy Tompase	Ę.	
	ID	Depth (ft)	Oymoor	i ivens	ity/consistency, color, odor, moisture, option	GROU nal des	JP NAME, max. particle size, criptions, geologic interpretatio	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Uilatancy Torichnee	Plasticity	Strength
0	120-1						ps = 0.25 in., grass, roots		~		≫ 80		5			10
	0'	0.5										-	_		+	-
	120-2 1'				-RAILYARD I	FILL-	(See 101-1)									
2 -	l															1
2	:	2.5								i						
		2.5														
	:													İ		
4 -				<u>}</u>							ľ					
	120-3 5'			Gray coarse	coal ash						Ì					
ļ	2					I FILL									[	
6 -					-101		-									
														ļ		
										Ì						
8 -																
		8.5		Pottom of F	xcavation at 8.5 ft.	<u> </u>					_					
ĺ		ļ		DOUDIN OF E	xcavation at 6.5 ft.							ĺ				
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		r												Ì		
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														ĺ		
bstru	ctions:		Rema		ht petroleum sheen o petroleum odor	on	Dilatancy R	Field Rapic			low	N	- Noi	18		
					r		Toughness L-	Low	м -	Mec	tium	н	i - Hig	h	1 8. 1	
	,						Plasticity N - Nonpl Dry Strength N - None L -	astic Low	L-L M-	.ow Med	M lium	- Me H	- Hig	H- 1 V-	rligh Ve <b>ry</b> I	High
		Water in C			Diameter (in.) N	<u>Boul</u> lumbe	ders		******		_			ns (ft		
	epth asured aft	6.5 er 0.25	ft	ours elapsed	12" to 24"	unne	=	Pit De			140		3.5	10-	12.0	
11106				· · · · · · · · · · · · · · · · · · ·	over 24"	£ 41		Pit Le	-					4.0 x	15.0	

	LEY & DRICH			TE	ST PIT LOG	3		Т	es	t P	Pit	No	),	Т	P12	21	
Loc Clie	iject ation ent htractor	Portland, Maine D	, Maine epartmen	cquisition t of Transporta ojects, Inc.	ation			File Dat Wea	e			21			4 ber 2	2000	 )
	ripment U				Cubic Yard Bucket			H&/						whe	v		
	und El.: Datum:	ft		Location:	See Plan	G	iroundwater depths/entry r	_									
ŧ		Stratum				. <u>.                                   </u>		Gra	ave	<u> </u>	San			f	Field	Test	
Depth	Sample ID		USCS Symbo	l (Dens	ity/consistency, color.	GROUI	on and Description NAME, max. particle size, riptions, geologic interpretation	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 0					GRAVEL with sand					10						<u>a</u>	
	121-1 1'			) I	GRAV	'EL FIL	L-										
- 2	121-2 2'	2.0			-RAILYARD I	FILL- (	See 101-1)		_								
- 4	121-3	2.8		Light brown lenses of da	n to brown well-grade rk brown sand	ed SAN	D, mps= 0.25 in., wavy		5	10	80	5					
- 6	-				-SAN	D FILL	, <b>.</b>										
	121-4 7'	7.0		Olive-gray o	alyey SILT with san			5	5	5	5	20	60			-	
- 8	-	8.0			-CLAYEY datform at 8.0 ft. xcavation at 8.0 ft.	SILT	FILL-		_	_					_		_
											and being the state of the sta						
Obstr	uctions:	Wooden		narks:				Field	Te	sts						1	╡
(log) ft. p	) platform ( revented m	or road at 8. ore digging	.0				Dilatancy R - Toughness L - L Plasticity N - Nonpla Dry Strength N - None L - I	stic	M - L - L		dium M	1 H 1-M		lìgh m	H - H		iah
	depth easured af		1	it nours elapsed	12" to 24" over 24"	Bould	Approx. Vol. (cu.ft)	rit De Pit Le	res pti ng	st Pi h th x	it D	ime idth	<del>ensi</del> 8.0	ons			.911

	LEY & DRICH			TE	ST PIT LOG				Те	st	Pit	No	) <b>.</b>	TF	P122	2
Loc Clic Co	oject cation ent ntractor uipment U	Portland, . Maine Do Environn	Maine epartmen nental Pr	cquisition t of Transportat ojects, Inc. xcavator 0.75 C	tion Cubic Yard Bucket			C V	ile Date Veat	the		21 C	)509 Nov lear Tew	emb	er 20	)00
	ound El.: Datum:	ft		Location:	See Plan	Gro slo	pundwater depths/ent owly at 3.5 ft.	ry rat		<u>د</u>			Vate			
Depth (ft)	Sample ID	Stratum Change Depth (ft)	USCS Symbo	) (Densi	ual-Manual Identifi ty/consistency, color, Gl odor, moisture, optional	ROUP	n and Description NAME, max. particle size	e, ation) (	% Coarse %		% Coarse % Medium B	T	% Fines	Dilatancy	Ionghness I	Plasticity a
- 0	122-1 0.5'	1.0		Olive-brown	-RAILYARD FI											
- 2	- 122-2 2'				-CLAYEY S	2	-									
- 4	- 122-3 4'	3.0		Olive-gray c water into pi	layey SILT with sand : it) -CLAYEY S	-	-									
- 6	-	6.0		Olive-gray to organics from	o gray coarse SAND w m former back cove bo -SANDY MD	ttom										
- 8	- 122-4 8'															
- 10	122-5 10.5'	10.0	CL	Native clay o	leposits (See 107-4) -MARINE E	DEPOS	<b>п</b> -				-					
		11.5		Bottom of E	xcavation at 11.5 ft.											
							T									
Obstructions:       Remarks:       Water draining from sand lense between clay layers at 3.5 ft.       Field Tests         Dilatancy       R-Rapid       S-Slow       N-None         Toughness       L-Low       M-Medium       H-High         Plasticity       N-Nonplastic       L-Low       M-Medium       H-High         Standing Water in Completed Pit       Diameter (in.)       Number       Approx. Vol. (cu.ft)       Pit Depth       11.5         at depth       ft       Diameter (in.)       Number       Approx. Vol. (cu.ft)       Pit Depth       11.5         NOTE:       Soli Identification based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.       4.0 x 12.0																
a n	t depth neasured af	ter		ft hours elapsed	Diameter (in.) Nu 12" to 24" over 24"	<u>nber</u>	rs Approx. Vol. (cu.ft) = = CS system as practiced t	Pi	t De t Lei	pth ngth	хV	] /idth	1.5		<u>ft)</u> x 12	.0

HA ALI	LEY & DRICH			TE	ST PIT LOO	;		Те	st	Pit	No	).	Т	P12	23	
	ject ation	Union B Portland,		quisition				-ile						-		
Clie	ent	Maine D	epartmen	t of Transporta	tion		1	Date	)		21	80509-014         21 November 200         Clear         J. Tewhey         Image: Selection of the se	2000	)		
1	ntractor			ojects, Inc.			l l	Veat	the	•	C	lea	509-014 November 200 Par Tewhey 5 5 5 7 7 7 8 8 8 7 7 8 7 7 8 7 7 7 7 7			
	lipment U		omatsu E		Cubic Yard Bucket			ł&A		_		1       November 200         Clear       J. Tewhey         1       Field Te         9       0         10       5         11       5         12       5         12       5				
	ound El.: Datum:	ft		Location:	See Plan	Gr	roundwater depths/entry ra	tes (	(in./r	nin.	.):		09-014 ovember 200 ar Tewhey Field Te Set 1 Set 1 S			
ŧ		Stratum	USCS	Vie	ual-Manual Iden	tificatio	n and Description	Gra	-				<b>—</b>			
Depth (ft)	Sample ID	Change Depth (ft)	Symbo	Densi	ty/consistency, color,	GROUP	<sup>9</sup> NAME, max. particle size, iptions, geologic interpretation)	% Coarse	% Fine	% Madin	% Fine	% Fines	Dilatancy	Toughne	Plasticity	Strength
- 0	123-1 0'				-RAILYARD	FILL- (S	See 101-1)							-		
	123-2 1'	1.0		Light brown	well-graded SAND	)				5 80	0 10	5		-		
- 2	123-3 1.5'	1.5		Olive-brwon	clayey SILT with s	and and	gravel, dry, stiff					F				
2		2.5		Olive-grov c	-CLAYEY							80509-014         21 November 2000         Clear         J. Tewhey         1         1         1         1         1         1         1         1         1         10         5         10         5         10         5         10         5         10         5         10         5         10         5         10         5         10         5         10         10         10         10         10         10         10         10         10         10         10         11         12         12         12         12         12          12				
				Onve-gray e	-CLAYE	<sup>c</sup>										
- 4	123-4					. 01211										
	4'													P-014 rember 200 whey Field Test Sequences Sequenc		
															r 2000	
- 6	-	6.0		Gray coarse	coal ash				-	Sand       Field Tes         Sand       Set of the set of						
	123-5					H FILL-					21 November 200 Clear J. Tewhey n.): Sand Field Tee Sand Field Tee Sand Server of the server o					
	7'															
- 8	-						:									
	123-6	8.5		Gray coarse metal, brick	coal ash with trash;	wood, c	ceramics, glass, leather,			1		J. Tewhey : nd Field Tes Superior Approximately a series of the serie		_		
	9'			mean, onex	-ASH AND	REFUSE	E FILL-									
- 10	-															
	123-7	11.0														
	11'	~1.0	CL	Native clay o	leposits (See 107-4)										- High - Very H	
- 12	-	10.0			-MARINI	e depo:	511-									
		12.5		Bottom of E	xcavation at 12.5 ft.											
nn 17 1 1																
3																
Obst	ructions:		Ren	narks:				iełd				 	· ·	1		
							Toughness L - Lo Plasticity N - Nonplas	stic L	M - N Lo	lediı. w	im M - N	H - ł Viedi	High um			
	Standin	g Water in (	Complete	d Pit		Bould	lers						-		ery H	ligh
at	t depth			ft	<u>Diameter (in.)</u> 12" to 24"	Number		it De	-		um H-High M-Medium H-High um H-High V-Very Dimensions (ft) 12.5 Width 4.0 x 14.	10				
	easured at			hours elapsed	over 24" Jal-manual methods	of the US	= P SCS system as practiced by Ha			_		Image: Second state sta	4.0	_		

Ъ А	ALFY & IDRICH			Т	EST PIT LO	G		т	est	Pi	it N	0,	T	P12	4
	roject			cquisition				File	e No			050	9-01	4	• <u>•••••••</u>
	ocation	Portland						ļ		-					000
1	ient ontractor				ation		-								100
	quipment				Oubin Vord Buols	.4		We	athe	: <b>r</b>	(	Clear	ſ		
					<u> </u>	File No.     80509-014       Date     21 November 2000       Weather     Clear       H&A Rep     J. Tewhey       See Plan     Groundwater depths/entry rates (in/min.):       al-Manual identification and Description consistency cotr, GROUP NAME, max particle size, r, molsture, optional descriptions geologic interpretation) gr (from 4									
	round El.: . Datum:	ft		Location:	See Plan										
€		Stratum													
Denth	Sample	e Change	Symbo	at l	File No.     80509-014       Transportation     Use 21 November 2000       Weather     Clear       H&A Rap     J. Tewhey       cation:     See Plan       Oroundwater depths/entry rates (in/min.):       Visual-Manual Identification and Description       Density/consistency, color, GROUP NAME, max, particle size, structure, color, meature, optional description       Density/consistency, color, GROUP NAME, max, particle size, structure, color, meature, optional description       Visual-Manual Identification and Description       Density/consistency, color, GROUP NAME, max, particle size, structure, color, meature, optional descriptions, geologic interpretation       Yellow-brown to brown well-graded SAND with lenses of dark       -SAND FILL-       Dilve-gray to gray well-graded SAND FILL-       Soltom of Excavation at 6.0 ft.       Dilve-gray to gray well-graded SAND FILL-       Soltom of Excavation at 6.0 ft.       Dilvengt N - None       Dilatancy       R - Rapid     S-Slow       Nongering       Soltom of Excavation at 6.0 ft.       Diatancy       Diatancy       Nongering <t< td=""></t<>										
	1	Depth (ft)		(Den:	sity/consistency, color odor, moisture, optic	Date     21 November 2000       Weather     Clear       H&A Rep     J. Tewhey       See Plan     Groundwater depths/entry rates (in./min.):       al-Manual Identification and Description     Grove Sand       consistency, color, GROUP NAME, max, particle size, missue, optional descriptions, geologic interpretation)     Field Test       -RALLYARD FILL- (See 101-1)     Grove Sand     Field Test       To brown well-graded SAND with lenses of dark     Image: Sand Sand Sand Sand Sand Sand Sand Sand									
- 0		0.5			-RAILYARD	FILL- (	(See 101-1)					Ē	-		
		0.5		Yellow-bro brown and	Date     21 November 2000       Visual-Manual Identification and Description msily/consistency, color, GROUP NAME, max, particle size, e, oddr, muslure, optional descriptions, geologic interpretation)     Grave     Sand     Field Test       Visual-Manual Identification and Description msily/consistency, color, GROUP NAME, max, particle size, e, oddr, muslure, optional descriptions, geologic interpretation)     Grave     Sand     Field Test										
- 2	-	2			-SAI	File No.     80509-014       Date     21 November 2000       Weather     Clear       H&A Rep     J. Tewhey       Groundwater depths/entry rates (in./min.):         htification and Description          (GROUP NAME, max. particle size, mal descriptions, geologic interpretation)          21 November 2000          PILL- (see 101-1)       raded SAND with lenses of dark       ND FILL-       SAND       Dilatancy       R - Rapid       SAND       DD FILL-       Dilatancy       R - Rapid       S. Slow       Nonplastic       L - Low       M- Medium       H- High       Platering       R - Rapid       S - Slow       Volumer       Approx. Vol. (cutit)       =       -									
-							,	File No. 80509-014         Date       21 November 200         Weather       Clear         H&A Rep       J. Tewhey         Dundwater depths/entry rates (in./min.):         Grave Sand Field Test         and Description       Image: Sand Sector Secto							
										ļ	ĺ		DS09-014 November 200 lear Tewhey Field Te Self for Self for		
4	_														
	ł														
	ļ	5.0	SW	Olive-grav	Bandon U. 75 Cubic Yard Bucket     Ha Rep     J. Tewhey       Analysis     Groundwater depths/entry rates (h./min.):     Ha Rep     J. Tewhey       Visual-Manual Identification and Description (Density/consistency, color, GROUP NAKE, max, particle size, structure, color, moleture, optional description, geologic interpretation)     Image: Color of the size interpretation of the size interpr										
	÷.		atum Symbol       USCS (Densityconsistency, color, GROUP NAME, max, particle laze, structure, ody, molature, optional descriptions, geologic interpretation) structure, ody, molature, optional descriptions, geologic interpretations aturcture, ody, molature, optional descriptions, geologic interpretations aturcture, ody, molature, optional descriptions, geologic interpretations aturcture, ody, molature, optional descriptions, geologic interpretations brown and gray sand       Image: Big Big Big Big Big Big Big Big Big Big												
F 6		6.0		+-											
						Yard Bucket     Weather     Clear       HaA Rep     J. Tewhey       Plan     Groundwater depths/entry rates (in./min.):       Manual Identification and Description     Identification and Description       isteroy, color, GROUP NAME, max, particle size, lociture, optional descriptions, geologic interpretation     Identification       RAILYARD FILL- (See 101-1)     Identification       rown well-graded SAND     Identification       -SAND FILL-     Identification       well-graded SAND     Identification       -SAND FILL-     Identification       well-graded SAND     Identification       -SAND FILL-     Identification       well-graded SAND     Identification       -SAND FILL-     Identification       well-graded SAND     Identification       Sand cause collapse     Field Tests       Dilatancy     R-Rapid S-Slow N-None       Toughness     L-Low M-Medium H-High       Platerity     N-None       Dystrength N-None     L-Low M-Medium H-High       Presentity     N-Nonpersity       Number Approx. Vol. (cuft)     Pit Length xWidth									
					Or 0.75 Cubic Yard Bucket     H&A Rep     J. Tewhey       H&A Rep     J. Tewhey       Make may be a strategy and the strategy of the strategy										
									Field T         Grave Sand Field T         g						
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									Field Tests						
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Obst	ructions:	<u>l</u>	Rem	arks: Dru			ca	Field	Tecte	<u> </u>				High - High	<u> </u>
					romming saily valise	c conaps	Dilatancy	R - Rapid	Rapid S-Slow N-None w M-Medium H-High stic L-Low M-Medium H-High ow M-Medium H-High V-VeryHi <u>Test Pit Dimensions (ft)</u> it Depth 6.0 it Length x Width 4.0 x 11.0	$\neg$					
							Plasticity N - No	nplastic L	Lov	v I	M - M	ediun	n H	- High	
<b>—</b>	<u>Standin</u>	g Water in C	ompleted	1 Pit		Bould	Dry Strength N - None	L - Low	M - M	ediur	m H	- Hig	h V	- Very	High
1	depth		fi				Approx. Vol. (cu.ft)								
m	easured af				over 24"			Pit Lei	ngth		/idth		4.0 2	c 11.	с
l		NOTE: Soil id	entificatio	n based on visu	Dilatancy     R - Rapid     S - Slow     N - None       Toughness     L - Low     M - Medium     H - High       Plasticity     N - Nonplastic     L - Low     M - Medium       Dry Strength     N - None     L - Low     M - Medium       Boulders     Test Pit Dimensions (ft)       Diameter (in.)     Number     Approx. Vol. (cu.ft)       12" to 24"     =     Pit Depth     6.0										

	AD	LEY & DRICH			T	EST PIT LO	DG			Те	st I	Pit N	lo.	<u>ר</u>	ΓP1	25	
		ject ation	Union B Portland,		cquisition	Υπου <u>πο</u> τικό το το το το το το το το το το το το το			F	ile l	No.			09-0			
	Clie				nt of Transpor	tation		-		Date		2	1 Ne	уүел	ıber	200	D
		itractor ipment U			-	Culta Valance			V	Veat	her		Clea	IL			
ļ													<i>І.</i> Т	ewha	>y		
		und El.: Datum:	ft		Location:	See Plan		Groundwater depths/en	itry rai	tes (i	n./m	in.):					
ŀ				<u></u>				······································		Grav	el	Sand		1-	Field	Tae	
	th (f	Sample	Stratum Change			isual-Manual Ide	entifica	tion and Description							se		ΤI
		ID		Sympe	DI (Den structure	sity/consistency, col , odor, moisture, opt	lor, GRO	UP NAME, max. particle siz	e, ation)	Coar	Coar	Wedi	E la	ilatano	udghu	asticit	Strength
F	0 -								auony	<u>%</u>		% >			Ť	<u>a</u>	<i>t</i> o
			0.5		Yellow bro lenses of b	own to brown well- lack railyard fill	-graded S	SAND with 3-4 in. thick									
`	2 -	Sample ID     Change Depth (ft)     Oscs Symbol     Visual-(Density/constructure, odor,	-\$4	AND FII	L-												
	_					ł											
			Sample ID     Stratum Change Depth (ft)     USCS Symbol     (De structur       0.5     Yellow b lenses of       6.0     Olive gray       7.5     Bottom of														
	4				Intel Projects, Inc.       Weather       Clear         matsu Excavator 0.75 Cubic Yard Bucket       Groundwater depths/entry rates (in./min.):         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         USCS       Visual-Manual Identification and Description       Grows Sand       Field Test         Value brown to brown well-graded SAND with 3-4 in. thick       Image: Sand Fill       Field Test         Value brown to brown well-graded SAND       SAND FILL-       Image: Sand Fill       Image: Sand Fill         Olive gray well-graded SAND       SAND FILL-       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill         Bottom of Excavation at 7.5 ft.       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill         Image: Sand Fill       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill       Image: Sand Fill <td></td>												
	4	2     0.5     Yellow brown to brown well-graded SAND with 3-4 in. thick lenses of black railyard III       4     -       6     6.0       0live gray well-graded SAND       7.5       Bottom of Excavation at 7.5 ft.         structions:         Remarks:     Dry running sands cause collaps         Field Tests         0 hole									}						
	i																
	6     6.0     Olive gray well-graded SAND SAND FILL-       7.5     Bottom of Excavation at 7.5 ft.																
	6	7.5 Bottom of Exc			т			╞─├			-+		$\dashv$				
			1		2 2 2	-07		L-									
			Olive gr	Bottom of E	Excavation at 7.5 ft										_		
				ř.													
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							nds cause collaps Dilatancy Toughness Unidaticy N - Nonplastic L - Low M - Medium H - High										
													N- None H- High H- High V- Very ensions (ft) 7.5				
8 Dec 00														None High Units (ft)			
GPJ 8									ĺ								
ŧ F	hstru	ctions:		Rom	hole Dilatancy R - Rapid S - Slow N - None Toughness L - Low M - Medium H - High Plasticity N - Nonplastic L - Low M - Medium H - High Dry Strength N - None L - Low M - Medium H - High V - Very High <u>ed Pit</u> <u>Boulders</u> <u>Test Pit Dimensions (ft)</u>												
ICODAS		of hole Dilatancy R-Rapid S-Slow N-None Toughness L-Low M-Medium H-High Plasticity N-Nonplastic L-Low M-Medium H-High Dry Strength N-None L-Low M-Medium H-High V-Very High	-														
LHUNEL								Plasticity N - No	oplastic	: L-I	.ow	M - N	ediu	m F	H - Hig	jh	
		Standing	Water in Co	omplete	d Pit	, [		ders	L - Low							ry Hi	10
	at d	-	r	f	-	Diameter (in.) 12" to 24"	<u>Numbe</u>	<u>Approx. Vol. (cu.ft)</u>		Depth	ì		7.5				
	mea	asured afte			ours elapsed	over 24"	of the !!	= SCS system as practiced by	Pit I	eng	th x \	Width		4.0	x 12	2.0	

2000 Test Boring Logs for Phase II Environmental Site Assessment (see Reference 1)

Proj Cliei Con		Ma	ion Br line De line Te	epartm	nent of	f Tran	roperty Po isportation	rtland	l, Maine				s	ile l hee tart	et N	No. 2(	1 d 0 N		l mbe	er 20		
			с	asing	Sar	mpler	Barrel		Drilling Equipme	nt and f	Procedures		1	inis rille		20				er 20		
Гуре	•			HSA		S		Rig	Make & Model: Mo				1	&A		ep.			-	Ceen hens		ı
nsid	e Dia	meter (	in.)	4.25	1	3/8	_	Bit 1	Гуре:				E	lev	atio	, n			<u> </u>			
		Veight (	- 1			40	-		Mud:				<u> </u>	atu oca			<b>C</b>	DI				
		all (in.)	· ·			30	-	Cas Hois	ang: st/Hammer: Winch/	Doughr	ut Hammer			Jua	101		366	e Pla	ап			
_		9.3		Ę	⊢   ₽	<u></u>					·····		Gra	ave		Sar	nd			ield	Te	st
Ë,		c. (ir	e (	iagre	Dep	Symbol		/isual·	-Manual Identificatio	n and D	Description		e S	_	rse	icm		s	2	ess	2	Ţ
o Depth (ft.)	SPT*	Sample No. & Rec. (in.)	Sample Depth (ft.)	Weli Diagram	Elev./Depth (ft.)	nscs	(Density structure, o	/consi dor, m	stency, color, GROUP poisture, optional descr	NAME, iptions,	max. particle size* geologic interpreta	tion)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
Ī	2 5	S1 16"	0.0		0.4		Loose, blac	k silty	SAND with gravel, ro -BALLAST			 , -		20	20	20	10	30				F
	11				1.0			ise, bl	ack to brown medium t	o fine S.	AND, little coarse	/ sand, /	-		JU 	45	20 15	5 85	L .	┝╴╡		╀
-	25 17		2.0		1.0		damp		GRANULAR	FILL-												
	13	4"	4.0						clayey SILT, little find -CLAY FI	LL-		·				5	10	85				
	15 15						Hard, gray- Note: Water	brown encou	clayey SILT with sand intered at $\sim 2.8$ ft.	, probat	ole gravel, dry	1										
ļ	2 4	S3 12"	4.0		4.0		Loose, brow		ND, wet	 •		-			5	65	30		-			ł
; -	5		0.0						-GRANULAR	FILL-												
-	5	<u>\$4</u>	6.0				Loora	brown	SAND Flood	705			-									
	3	16"	8.0				Loose, gray	-Drowi	n SAND, black streak	~7.0 ft.	, wet				10	50	40					
	6 6													ĺ						ļ		
F	5	S5 16"	8.0				Loose, gray-	brown	n SAND, wet						5	65	30					
	4 2	10	10.0												ĺ							
₀∔	3	- 04	10.0													Ì						:
	1 4	S6 24"	10.0 12.0		10.5	OL/	Stiff, gray-b	rown o	organic SILT with shell	s							10	90				F
	5 3					ОН			- -HARBOR BOTTON		SIT.											
F					12.0			xplora	tion at 12.0 ft.				•••						••••			
							No refusal															I
							No elevated procedures.	PID re	eadings detected during	drilling	and sampling											1
							£															
			2																			
		Wat	ter Lev	i l el Dat	la		Ī	Sa	mple Identification	W.	ell Diagram			<u> </u>			<u> </u>					_
Da	te	Time	Elaps	ed	Depi	th (ft.)		0	Open End Rod		Riser Pipe	Ove	rbu			<u>nma</u> Tin.		1′	2.0			
			Time (		ottom Casing	Bottor of Hol	i wwater i	Т	Thin Wall Tube		Screen Filter Sand	Roc					-					
1/20	)/00	1315	-		4.0	6.0	2.8	บ ร	Undisturbed Sample	9 9 <sup>0</sup>	Cuttings Grout	Sam	ple	es			65	;				
								s	Split Spoon	<u>.</u> .	Concrete	Bor	in.	- •	10			n	110			

Cli	oject ent ntrac	M	aine D	)epar	tmen	Line I of Tra s, Inc.	Property Po insportation	rtland, Maine		5	Starl	et M t	No. 16	1 c 5 No		nbe		
				Casi	ng	Sample	r Barrel	Drilling Equipment and	d Procedures		<sup>-</sup> inis Drille		17			nbei /icK		00
	ide Di	ameter Weight	· ·	HS/ 4.2:		S 1 3/8 140	-	Rig Make & Model: Mobile I Bit Type: Drill Mud:	347 Bombardier		l&A lev Jatu	Re atio m	on	1	<u>K. S</u>	teph		on
		Fall (in.				30	-	Casing: Hoist/Hammer: Winch/ Doug	ghnut Hammer		.oca	tio	n	See	Pla	n		
Ĵ.		No. (ii)	-		a t	Symbol		isual-Manual Identification and		G	ave	÷—	Sar				ield	Те
Depth (ft.)	SPT*	Sample No. & Rec. (in.)	Sample Denth (ft )	Mall Discrem	Elev./De	(ft.) USCS Symbol	(Density	consistency, color, GROUP NAM		() Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
~ 0 -	1	S1	0.0	E			Loose, dark	brown to black silty SAND with c	cinder, roots		E	F				4		-
	4	12"	2.0		(	.3	Thoose, blac	silty SAND se, gray-brown SAND with silt (d		-7F	F	10	<u>20</u> 10	60 80	10 10	-+	-+	
	10 4 5 6	S2 16"	2.0 4.0			.0		se, gray-brown coarse to fine SAN				15	25	50	10			
5 -	8 1 2 1	\$3 12"	4.0 6.0	- C. 7-			Loose, gray	brown SAND with silt (wet)			5		15	75	5			
	2 1 2 4	S4 13"	6.0 8.0				Similar to S											
	4 1 2 2 2	\$5 12"	8.0 10.0				Loose, gray	SAND, black silty seam 9.8-9.9 ft -GRANULAR FILL										
10 -	1 4 3 2	S6 20"	10.0 12.0		10.	5 OL/ OH	Medium stif	, gray sandy organic SILT, shells -HARBOR BOTTOM DEI	POSIT-			_		90	10	_		
┝	4			-	11.	8 CL	Soft, gray le	n CLAY						-				
					12.		Bottom of Ea No refusal	-MARINE DEPOSIT ploration at 12.0 ft. PID readings detected during drilling						5-9	30			
							procedures.											
			er Lev	<u> </u>				Sample Identification	Nell Diagram			Um	ma					
Dat	te	Time	Elapso Fime (I	ar i E	De Bottom Casing		m JAZ-A-	O     Open End Rod       T     Thin Wall Tube       U     Undisturbed Sample       S     Split Spoon	Riser Pipe C Screen C Filter Sand R	)verbu lock C ample	irde ore	n (	lin.	ft.)	12	.0		
Field	d Tests	s:		Dilata	ancy:	R-R	apid, S-Slov ow. M-Media	G Geoprobe	Concrete Bentonite Seal	orin M-Me	-				<b>B1</b>	11		

A Pro Clie	DRIC DRIC oject ent ntracto	H Un Ma	ine I	Depar	h Rail I tment o forings,	f T <mark>ra</mark> r		BORING REPO	RT		File	e No	o. No	1	509- of J	014 1	B1'		
Typ Insi	e de Dia	meter ( Veight	in.)	Casir HSA 4.25	ng Sa A 5 1	mpler S 3/8 140	Barrel	Drilling Equipmer Rig Make & Model: Mo Bit Type: Drill Mud: Casing:	nt and Procedures bile B47 Bombardier		Fir Dri H8 Ele Da	iller A R avat tum catic	tep. ion	7 N	love D. M K. S e Pla	mbe McK Stepl	r 20 een	00	
Depth (ft.) Depth (ft.)		Sample No. & Rec. (in.) & Rec.		Vebui (IL) Meli Diagram		30 NSCS Symbol	(Density	Visual-Manual Identificatio /isual-Manual Identificatio //consistency, color, GROUP dor, moisture, optional descr	n and Description		erav Brav		Sa			F	Toughness a	Plasticity a	Γ
0 -	5 7 10 23 20 13 11	S1 16" S2 12"	0.0 2.0 2.0 4.0		0.6		Medium der Medium der (till fill)	k silty SAND, glass, roots, d -DEBRIS F nse, brown to light brown SA -GRANULAR nse, gray-brown silty coarse t nse, gray silty coarse to fine S	ILL- ND, little silt FILL- o fine SAND, glass, trace c	'		5	5						-
5 -	6 WOR WOH 1 2 WOH WOH	\$3 18" \$4 12"	4.( 6.( 6.( 8.(		4.0		Very soft, f sand Similar to S	ine sandy SILT with clay, tra	ce gravel and coarse to med	ium		5 10	5 10	25	50			, <u></u>	
10 -	1 1 WOR 2 1 1	\$5 22" \$6 24"	8.0 10. 10.		9.4	OL/	Very soft, b	gray silty SAND, little grave lack fine sandy SILT with co ark gray organic SILT -HARBOR BOTTON	I fragments		-	0 1C		50  10					-
	1 2 2	24	12.		12.0	CL	Bottom of E No refusal	TAKBOK BOTTON ILT to CLAY with sand, shel xploration at 12.0 ft. PID readings detected during	ls 										
Di	ate	Time	Elap	F	•••••	th (ft.)	m	Sample Identification O Open End Rod	Well Diagram	Over	bur			ary	) 12	2.0			
Fie	eld Test		Time	Dila	of Casing	of Ho	tapid, S-Slo	T Thin Wall Tube U Undisturbed Sample S Split Spoon G Geoprobe w, N-None Plas	Filter Sand Cuttings Grout Concrete Bentonite Seal ticity: N-Nonplastic, L-Log Strength: N-None, L-Log	Rock Samp <b>Bori</b> ww, M-N	ng Ied	s No	р.	6: Hig	5 <b>B</b> h				-

2006 Test Boring Logs for Proposed Bayside Parking Garage and Master Planning Study (see References 2 and 3)

Pro Clie Cor	ent	Propos Scott S Mai	Simor ne Te	is Arc st Bor	hitects ings, I	nc.	_	ster Planning Portland, Maine File No. 33538-000 Sheet No. 1 of 3 Start August 14, Finish August 15,		
			(	Casing		npler	Barrel	Drilling Equipment and Procedures Driller P. Hatch Rig Make & Model: Mobile Drill / Truck H&A Rep. B. Stein	art	
Тур				HW		SS	NQ	Bit Type: Roller Bit Elevation 9.0 +/-		
		neter (i	1	4.0		375	2.0	Drill Mud: None Datum Portland	City	
		Veight ( all (in.)	ID.)	300 30		40 30	-	Casing: HW Drive 45 ft Hoist/Hammer: Winch / Doughnut Hammer		
( lean						_		-	ield Tes	s
Depth (ft.)	SPT	Sample No. & Rec. (in.)	Sample Denth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	(Densit	/isual-Manual Identification and Description y/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , vdor, moisture, optional descriptions, geologic interpretation)	Toughness Plasticity	Τ
- 0 -		<u>S1</u>	0.0				NOTE: S	i collected from ground surface. Fill placed for access road. -FILL-		
- 5 -	15 16 12 12	S2 6	5.0 7.0	_	2.0	SP	Medium de no odor, w	ense, yellow brown, poorly graded SAND (SP), mps 4.75 mm, 0 0 5 60 30 5 ret -FILL-		······································
- 10 -	7 6 3 5	S3 12	10.0		11.0	SP ML	Wet Medium st	ense, gray, poorly graded SAND (SP), mps 4.75 mm, no odor, 0 0 0 60 30 10 -FILL- iff, gray, sandy SILT (ML), mps 0.42 mm, bonded, organic shells throughout -HARBOR BOTTOM DEPOSIT-		
- 15 -	WOH 2 1 2	\$4 24	15.0 17.0	z	15.0 16.7		no odor, w	to olive-gray, sandy lean CLAY (CL), mps 0.42 mm, bonded, et, layers of yellow-brown fine sand, mottled, trace organics -MARINE CLAY- lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet -MARINE CLAY-		
- - 20 - - -							FV1 (20.4	- 21.0 ft), Su > 690 psf		
- 25 ·		Wa	ter Le	evel D	ata			Sample Identification   Well Diagram   Summary		
C	)ate	Time	Elap	sed_		oth (ft. Botte of He	om	O     Open End Rod     IIII     Riser Pipe     Overburden (lin. ft.)     40.4       T     Thin Wall Tube     IIIII     Filter Sand     Rock Cored (lin. ft.)     22.0       U     Undisturbed Sample     IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		
								S Split Spoon G Geoprobe Concrete Bentonite Seal	j-1	

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	ALEY & DRICI						TEST BORING REPORT		File	No	).	33	538-	IA0 -000	)		
<u>.</u>		No.		E	pth	Symbol	Visual-Manual Identification and Description		ave		Sar			F	Field	Tes	st
Depth (ft.)	- -	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	s syn	(Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> ,	% Coarse	ine i	% Coarse	% Medium	ine	% Fines	Dilatancy	Toughness	Plasticity	dt p
	SPT <sup>1</sup>	S ar R R	Del Del	Well	(file) (file)	nscs	structure, odor, moisture, optional descriptions, geologic interpretation)	8	Ч К К	%	N %	8	% ⊢	Dilat	Touc	Plas	Strenath
- 25 -	WOR WOR WOH 1	S5 24	25.0 27.0			CL	Medium stiff, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, frequent black streaks -MARINE CLAY-						100				
							FV2 (25.4 - 26.0 ft), Su = > 690 psf FV3 (26.3 - 27.0 ft), Su = 1010 psf / 340 psf										
- 30 -	WOR WOR 1 7	S6 24	30.0 32.0		31.0	_ <u>CL</u>	Soft, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, frequent black streaks, frequent fine sand seams at 31.0 ft MARINE DEPOSIT-										
-							FV4 (30.4 - 31.0 ft), Su = 210 psf/150 psf FV5 (31.4 - 32.0 ft), Su > 690 psf	! ! 									
- 35 -	WOR 3	\$7 20	35.0 37.0		35.5	SP	Very loose to loose, gray, poorly graded SAND (SP), mps 2 mm, no	0	0	0	0	70	30				
	3 5 6		57.0		55.5	Sr	structure, no odor, wet -MARINE SAND-			Ū	Ŭ	10	30				
					38.0		NOTE: Glacial till observed in drill cuttings from 38.0 to 39.8 ft -GLACIAL TILL-										
- 40 -	50 (0.4)	S8 0	40.0 42.0		39.8	BR	NOTE: Bedrock encountered at 39.8 ft. Advance roller bit to 40.4 ft. Begin NQ rock core at 40.4 ft. See Core Boring Report for details.				••••						
							<ul> <li>NOTE:</li> <li>1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details.</li> <li>2. WOR = Weight of drill Rods; WOH = Weight of Hammer</li> </ul>										
<sup>1</sup> SP1	r = Samr	pier blow	s per 6 li	l n. <sup>2</sup> Mav	dimum r	article	e size is determined by direct observation within the limitations of sampler size.	 				<u> </u>		HA	06-1		
							anual methods of the USCS as practiced by Haley & Aldrich, Inc.		00	rin	g f	۷o.				-	

USCSLIB4.GLB USCSTB+CORE4.GDT G:/PROJECTS/33338/FIELD FORMS/3338-000.GPJ Sep 12, 06

HALI ALDI	EY & RICH				со	RE B	ORI	NG F	REPORT Boring No. HA06-1 File No. 33538-000 Sheet No. 3 of 3
Depth (ft)	Drilling Rate Min./ft	Run No.	Depth (ft)	Recove in.	ry/RQD %	Weath- ering	Well Dia- gram	Elev./ Depth (ft)	Visual Description and Remarks
40 —	6 2	Cl	40.4 44.4	18/14	38/78	Fresh High			SEE TEST BORING REPORT FOR OVERBURDEN DETAILS NOTE: Bedrock encountered at 39.8 ft. Advance roller bit to 40.4 ft. Begin NQ rock core at 40.4 ft. Medium hard to hard, fresh to highly weathered, aphanitic to fine grained gray, graphitic SCHIST. Primary joints dipping at horizontal to vertical angles, extremely close to moderately spaced, moderately wide, rough, stepped.
45 –	1 3 7 5 6	C2	44.4 49.4	0/0	0/0	Slight Comp			NOTE: No recovery
50 —	4						NO WELL INSTALLED		NOTE: Roller cone through weathered bedrock from 49.9 to 52.2 ft.
	4 3 3	C3	52.2 57.8	67/17	100/28	/lod/ Slig	at		Very soft, slightly to moderately weathered, aphanitic, gray to black, graphitic SCHIST. Primary joints dipping at vertical angles parallel to foliation, extremely close to moderately spaced, partly open to moderately wide, undulating to stepped. Some calcite veins, occasional pitting, frequent pyrite seams.
- 55	3 3 3 3 2 3	C4	57.8 62.4	55/14	100/44	Slight			Very soft to soft, slightly to moderately weathered, aphanitic, gray to blac graphitic SCHIST. Primary joints dipping at moderate to vertical angles (parallel to foliation), extremely close to moderately spaced, undulating to stepped, partly open to moderately wide, frequent calcite veins in upper he of run, occasional pitting, frequent pyrite seams.
	3							62.4	-BOTTOM OF EXPLORATION-

Proj Clie Cor	nt		Simo	ons Ar	chitect: prings,	Inc.	rage & Ma	aster Planning Portland, Ma		5	ile Shee Starl	∋t N t	lo. /	1 o Aug	f 2 ust	16,	200( 200(		
				Casin	ig Sa	mpler	Barrel	Drilling Equipment			Drille				itch				
Туре	e			HW		SS	-	Rig Make & Model: Mobil	le Drill / Truck		1&A		•			tein			_
Insid	le Dia	meter (i	in.)	4.0	1	.375	-	Bit Type: Roller Bit Drill Mud: None			Elev Datu		011			+/- land	l Cit	y	
Harr	nmer V	Veight (	(lb.)	300		140	-	Casing: HW Drive 40.0 f	ft	ΓL	.oca	itio	n	See	Pla	an			
Harr	nmer F	all (in.)		30		30	-	Hoist/Hammer: Winch /	Doughnut Hammer							,			
Depth (ft.)	Ť_	Sample No. & Rec. (in.)	Sample	Ueptn (π.) Well Diagram	Elev./Depth	Symbol		/isual-Manual Identification		G	ave	Coarse	Sar eqinm		nes		Toughness		T
o Dep	SPT	& Re Re	Sar	Vell Vel	) Elec	uscs	structure, c	y/consistency, color, GROUP N odor, moisture, optional descript	AME, max. particle size", ions, geologic interpretatio	אר) אר) אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין אריין א אריין אריין  5 E	Ŭ %	W %	% Fi	% Fines	Dilatancy	Toug	Plasticity		
							NOTE: F	ill placed for access road -FILL-											
	13 31 36 23	S1 12	1.: 3.:		1.5 2.0	<u>SP</u> CL	4.75 mm,	ense, yellow-brown to black, po no structure, no odor, dry to mo 	pist	ips — — 10 — — — —	0	0	5	10	85				Ī
5 -								e-gray, sandy lean CLAY (CL), o odor, dry, some reworked glad											
	14 14 16 21	S3 10	5.( 7.(		5.0	SP	Medium de mm, no od	ense, yellow-brown, poorly grad lor, wet -FILL-	led SAND (SP), mps 4.75	]0	0	5	80	10	5				
10 -	5 4 5 12	S3 16	10. 12.	F. 7 1	11.2	SP ML	mm, no od Stiff, gray,	ense, yellow-brown, poorly grad lor, wet -FILL- , sandy SILT (ML), mps 0.42 m nd shells throughout -HARBOR BOTTOM	m, bonded, organic odor,	wet,	_	20	70	5 15	5 85				
15 -	3		15.	0	15.0	CL	Medium st	-HARBOR BOTTOM							100				
	3 4 3	24	17.	0	16.7	CL	mottled, no Soft, gray,	o odor, wet -MARINE CLA lean CLAY (CL), mps 0.075 m	4Y	ior,					100				
					<u> </u>		wet	-MARINE CL4	AY-										
20 -							FV1 (20.3	- 21.0 ft), Su = 560 psf/170 ps	f										
25 -								1											
			1	<u>evel</u> [ psed]	******	pth (ft.	) to:	Sample Identification	Well Diagram	<u></u>				ary 4		4			
D	ate	Time		e (hr	Bottom of Casin	Botto	om Water	O Open End Rod T Thin Wall Tube U Undisturbed Sample	Screen Filter Sand	Overl Rock Samp	Co	red	•		)				
								S Split Spoon G Geoprobe	Concrete Bentonite Seal	Bori	ng	No	<b>b</b> .		H	A06	5-2		

	LEY & DRICI						TEST BORING REPORT		File	N	<b>.</b>	33	538	<b>1A0</b> -000 of 2	)		
Depth (ft.)	SPT <sup>1</sup>	Sample No. 8 & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	+	ave	1	Sar	ŋd		1	Toughness pi	Plasticity a	
25 -	WOR WOR WOH WOH	S5 24	25.0 27.0			CL	Medium stiff, gray, lean CLAY (CL), mps 0.42 mm, bonded, no odor, wet, frequent black streaks, occasional fine sand seam -MARINE CLAY- FV2 (25.4 to 26.0 ft.), Su = 590 psf/120 psf						100				
30 -							FV3 (30.4 - 31.0 ft), Su ≈ 600 psf/40 psf										
35 -	15 17 6	S5 4	35.0 37.0		34.5	SP	Medium dense, gray, poorly graded SAND (SP), mps 2.0 mm, no odor, wet -MARINE SAND-				5	90	5				
	12																
40 -	52 49 50 (0.2)	S6 0	40.0 42.0		40.0	BR	NOTE: No recovery. Split spoon refusal at 41.2 ft. -WEATHERED BEDROCK-										And And And And And And And And And And
45 -							NOTE: Rollercone refusal at 47.2 ft. BGS.										
					47.2		-BOTTOM OF EXPLORATION- NOTE: Observation well installed in completed borehole. See Well Installation Report for details. NOTE: 1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details. 2. WOR = Weight of drill Rods; WOH = Weight of Hammer.										
				2110			e size is determined by direct observation within the limitations of sampler size.			<u> </u>					06-2		

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Proj Clie		Propo Scott :	Simo		chite	ects	-		BORING REPORT       Boring No.       HA00         aster Planning Portland, Maine       File No.       33538-000         Sheet No.       1 of 2         Start       August 9, 2006	6-3
				Casir	ng	Sarr	pler	Barrel	Drilling Equipment and Procedures         Finish         August 9, 2006           Driller         T. Schaefer	
Туре	e			HW	- + -	S	s	~	Rig Make & Model: Mobile B-47 / Truck H&A Rep. K. Stone	
• ·		neter (	in )	4.0			375	_	Bit Type: Roller Bit Elevation 9.0 +/-	
		Veight (	- 1	300			10	_	Drill Mud: None Datum Portland City	,
		all (in.)		30			0	-	Casing:         HW Drive 30.0 ft         Location         See Plan           Hoist/Hammer:         Winch / Doughnut Hammer         Location         See Plan	
_		d 🔿		_ 6	<u>لہ</u>	5	ō		Gravel Sand Field	est
Ű.		ie N	<u>e</u>	oth (ft.)			Symbol	۱	Visual-Manual Identification and Description	≥
Depth (ft.)	SPT	Sample No. & Rec. (in.)	Sample		Flev /	(ft.)	8		Visual-Manual Identification and Description ty/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , bdor, moisture, optional descriptions, geologic interpretation)	Plasticity
0 +										
-	18 23 18 20	S1 18	2. 4.				SP	Dense, bla slight odor	ack, poorly-graded SAND (SP), mps 0.75 in., no structure, r, moist -FILL-	
5 -	6 5	S2 13	5.				SP		ense, dark gray, poorly-graded SAND (SP), mps 0.75 in., 65 35	
	3	15	<i>'</i> .			5.9	ML		-FILL- 20 80	
									e, sandy SILT (ML), mps 0.45 mm, numerous shell fragments o odor, moist -HARBOR BOTTOM DEPOSIT-	
10 -	5 7 4 5	S3 3	10 12	.0 V.		, , , , , , , , , , , , , , , , , , ,	ML		r, sandy SILT (ML), mps 0.45 mm, numerous shell fragments o odor, moist -HARBOR BOTTOM DEPOSIT-	
	WOH 1 2 3	S4 24	12 14	.0 [		.2.0	CL		, lean CLAY (CL), mps 0.43 mm, wood fragments, organics umerous shells, frequent sand partings, no odor, wet -HARBOR BOTTOM DEPOSIT-	
15 -					1	5.3	_	FV1 (15.3	9 - 16.0 ft), Su = 1430 psf/410 psf	
20 -	WOR WOR WOR WOH	\$5 24	20 22				CL	Soft, gray, wet	, lean CLAY (CL), mps 0.075 mm, occasional black streaks, -MARINE CLAY-	
-25 -		14/-	+01							
	ate		1	_evel   apsed	ļ		th (ft.		Sample Identification         Well Diagram         Summary           O         Open End Rod         III         Riser Pipe         Overburden (lin. ft.)         42.0	
U:	ate	Time		e (hr	Bott of Ca		Botto of Ho			
									U Undisturbed Sample Cuttings Samples S7	
Eir	eld Test	e.		L)II	atano	<u></u>	R-F	Rapid S-S	S Split Spoon G Geoprobe Now, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High	
LI6		ið.			ughn	iess:	L-L	ow, M-Me	adium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very Hig e is determined by direct observation within the limitations of sampler size.	<u>h</u>

SCSLIB4.GLB USCSTB+CORE4.GDT G:PROJECTSW3538FIELD FORMSW3538-000,GPJ Sep 12, 06

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H/ Al	ALEY ( DRIC	\$ H					TEST BORING REPORT	l F	File	N	<b>o</b> .	33	538	HA0 -000	)		
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description , - (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coarse	% Fine av		of Modium S	% Fine	% Fines		Toughness	Plasticity 8	Γ
- 25 -		U1 24	26.0 28.0	-	3		FV2 (25.3 - 26.0 ft), Su = 430 psf/110 psf										
- 30 -	WOR WOR WOR WOH	\$6 24	30.0 32.0			CL	FV3 (28.3 - 29.0 ft), Su = 430 psf/100 psf Soft, gray, lean CLAY (CL), mps 0.075 mm, some black staining, wet -MARINE CLAY-						100				
- - 35 - -							FV4 (35.3 - 36.0 ft), Su = 540 psf/120 psf										
- 40 -	9 12 15 23	S7 18	40.0 42.0		39.0	SM	Medium dense, gray, silty SAND (SM), mps 0.75 in., slightly bonded, wet -GLACIAL TILL-		10	15	35	20	20				
					42.0		-BOTTOM OF EXPLORATION- NOTE: 1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details. 2. WOR = Weight of drill Rods; WOH = Weight of Hammer.										
							e size is determined by direct observation within the limitations of sampler size, anual methods of the USCS as practiced by Haley & Aldrich, Inc.		Bo	rin	 1a	No		HA	06-3		

Type         NW         SS         NQ         Rig Make & Model: Mobile Drill / Truck         HBA Rep.         K. Stone           Inside Diameter (in.)         3.0         1.375         2.0         Drill Mud: None         Elavation         9.0 +/-           Hammer Veight (b.         300         140         -         Casing: NW Drive 48.0 ft         Location         See Plan           Hammer Fall (in.)         30         30         -         Hoist/Hammer: Winch / Doughnut Hammer         Location         See Plan           T         T         T         T         T         See Plan         See Plan           T         T         T         See Plan         See Plan         See Plan         See Plan           T         T         T         See Plan         See Plan         See Plan         See Plan           T         T         See See See See See See See See See See	Pro Cli∈ Cor	nt	Propo Scott r Mai	Simo ine T	ns Aro est Bo	chitects rings,	inc.	-	aster Planning Portland, M		9	ile Shee Stari	etľ t	lo.	1 c Au	of 3 gust	8,	2006 2006		
Initiate Diameter (in.     3.0     1.375     2.0     Bit Type: Roller Bit Drill Mud: Noa:       Harmer Veight (b.     300     1.40       Sample Set (b. 300       30     30       30     Sample Set (b. 300       Get (b. 300     Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       Get (b. 300       14.5       CL       Set (b. 300       Get (b. 300       <					Casin	g Sa	mpler	Barrel												
Based Baseline (N)         3.0         (1.3/3)	Тур	е			NW		SS	NQ		oile Drill / Truck				-						
Hammer Weight (b): 300 140 - Casing: NV Drive 48.0 ft Hammer Fall (n): 30 30 - Visual-Manual Identification and Description The form of the form of	Insid	de Dia	meter (	in.)	3.0	1	.375	2.0						on					v	
Image: Constraints         Organization         Gravel Stand         Stand         Field Test Stand           0			-	. 1	300		140	-	Casing: NW Drive 48.0		L	002	itio	n					¥	
0	Нап	nmer F			30		30	-	Hoist/Hammer: Winch /	Doughnut Hammer										
0	oth (ft.)		nple No. ec. (in.)	nple	Diagram	/./Depth	S Symbal									nes		······		Τ
0         CONCRETE         0<	Der	SP	& R & R	Sar	Well	€ Ele	usc				) (C	2 H %	с %	W %	1   %	% Fi	Dilata	Toug	Plasti	
13       SI       2.0 22       18       4.0 22       18       4.0 22       18       4.0 22       10       45       15       10       10       45       15       10       10       45       15       10       10       45       15       10       10       45       15       10       10       45       15       10       10       45       15       10       10       15       10       10       15       10       10       10       15       10       10       10       15       10       10       15       10       10       15       10       10       15       10       10       10       15       10       10       10       15       10       10       15       10       10       10       10       15       10       10       15       10       10       10       15       10       10       10       15       10       10       10       15       15       10       10       15       10       10       10       15       10       10       10       15       10       10       10       10       10       10       10       15       10       1	0 +				-				-CONCRET	ГЕ-										F
232       18       4.0         5       9       52       5.0         10       2       23       10.0         11       4       7.0         3       3       -         10       2       53       10.0         11       2       10.0       -       -         10       2       23       10.0       -       -         11       2       12.0       2       10.0       -       -         12       12.0       14.5       CL       Stiff, gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -       -       -         14       5.0       CL       Stiff, gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -       -       -         15       4       5.0       CL       Stiff, gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -       -       15       10       75         15       4       5.0       CL       Stiff, gray, lean CLAY (CL), mps 2.0 mm, no odor, wet -       -       100       -         20       -       -       -       -       -       -       -       100       -         22       -       -       -       -       -       - <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td>┢</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>F</td>						1.0						-	┢							F
10       1       4       7.0       5.0       CL       Stiff. gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -FILL-         10       1       2       5.0       CL       Stiff. gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -FILL-         10       1       2       12.0       12.0       12.0       14.5       CL       Very soft, gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -FILL-         15       4       54       12.0       14.5       CL       Stiff. gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -FILL-         15       4       55       15.0       CL       Stiff. gray, sandy lean CLAY (CL), mps 2.0 mm, no odor, wet -FILL-       15       10       75         16       14.5       CL       Stiff. gray, lean CLAY (CL), mps 0.075 mm, no odor, wet -MARINE CLAY-       100       100       100         20       -       -       -       -       -       -       100       100       100         22       -       -       -       -       -       -       -       -       100       100       100         22       -       -       -       -       -       -       -       -       -       -       -       -       -       -       100<		24 32			1		SM	Very dense bonded, sii	ight odor, dry	gravel (SM), mps 1.0 in.,	5	15	10	10	45	15				
8	5 -	11 11				5.0	CL	Stiff, gray,		2.0 mm, no odor, wet			_	15	10	75			_	
15       4       S5       15.0         4       13       17.0         8       13       17.0         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -         20       -       -       -         20       -       -       -       -         21       -       -       -       -       -         22       -       -       -       -       -       -         23       -       -       -       -       -       -       -         24       Time       -	10 -	$ \begin{array}{r}1\\1\\2\\\hline \\4\\5\end{array}$	2 		s			15					······································							
25       Water Level Data       FV1 (20.3 - 21.0 ft), Su = 860 psf/170 psf       Image: Summary summ	15	4 5			)	14.5	1 1	Stiff, gray,								100				
Water Level Data     Sample Identification     Well Diagram     Summary       Date     Time     Elapsed Time (hr.)     Depth (ft.) to: of Casing     O     Open End Rod     Riser Pipe Screen     Overburden (lin. ft.)     46.0       8/9/06     06:45     12.5     48.0     60.2     3.6     U     Undisturbed Sample S Split Spoon     Filter Sand Grout     Concrete     Boring No.     HA06-4	20 ~							FV1 (20.3	- 21.0 ft), Su = 860 psf/170 p	sf					1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -					
Water Level Data     Sample Identification     Well Diagram     Summary       Date     Time     Elapsed Time (hr.)     Depth (ft.) to: of Casing     O     Open End Rod     Riser Pipe Screen     Overburden (lin. ft.)     46.0       8/9/06     06:45     12.5     48.0     60.2     3.6     U     Undisturbed Sample S Split Spoon     Filter Sand Grout     Concrete     Boring No.     HA06-4	25																			
Date     Time     Litipsed     Bottom     Bottom     Bottom     Bottom     Water     T     Thin Wall Tube     Screen     Overburden (lin. ft.)     46.0       8/9/06     06:45     12.5     48.0     60.2     3.6     U     Undisturbed Sample     Filter Sand     Rock Cored (lin. ft.)     14.2       Solution       8/9/06     06:45     12.5     48.0     60.2     3.6     U     Undisturbed Sample     Solution     Solution     Solution       Solution     Solution     Solution     Solution     Solution     Solution     Solution     Solution     Solution       Solution     Solution     Solution     Solution     Solution     Solution     Solution     Solution	-9 <b>-</b>	1	Wat						Sample Identification			Ş	Sur	nm	агу					
8/9/06     06:45     12.5     48.0     60.2     3.6     U     Undisturbed Sample     Cuttings     Rock Cored (lin. ft.)     14.2       Signal     Signal     Signal     Signal     Cuttings     Samples     Signal       Boring No.     HA06-4	Da	ate	Time		(hr )	Bottom	Botto	m Water		Screen										
S Split Spoon Grout Grout Boring No. HA06-4	8/9	/06			<u> </u>			18					ed	(lin			4.2			
		ŀ	-						S Split Spoon	Grout Grout			Nc	).			106	-4		

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H. Al	ALEY & DRIC						TEST BORING REPORT	F	-ile	No	<b>)</b> ,	335	538	IA0 -000 of 3	)	
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coarse	% Fine	% Coarse	% Medium		% Fines	Dilatancy	Toughness D	
- 25 -	WOR WOR WOR	S6 24	25.0 27.0			CL	Soft, gray, lean CLAY (CL), mps 0.43 mm, occasional sand partings, wet -MARINE CLAY-						100			
- 30 -							FV2 (30.3 - 31.0 ft), Su = 450 psf/170 psf									
- 35 -							FV3 (35.3 - 36.0 ft), Su = 490 psf/130 psf									
40 -	WOR WOR WOR WOR	\$7 24	40.0 42.0		42.0	CL	Medium stiff, gray, lean CLAY (CL), mps 0.45 mm, occasional sand layers, wet - MARINE CLAY- <u>FV4 (40.3 - 41.0 ft), Su = 570 psf/130 psf</u> -GLACIAL TILL-						100			-
45 -	<del>50 (.2)</del>		45.5		45.0	BR	-WEATHERED BEDROCK-									 -
			45.7		46.0		<ul> <li>NOTE: Bedrock encountered at 45.0 ft. Advance roller bit to 46.0 ft. Begin NQ rock core at 46.0 ft. See Core Boring Report for details.</li> <li>NOTE: <ol> <li>FV1 (20.4 - 21.0 ft) indicates in-situ field vanc performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details.</li> <li>WOR = Weight of drill Rods; WOH = Weight of Hammer.</li> </ol> </li> </ul>									
'SPT	= Samp	ler blows	s per 6 in	.²Max	imum p	article	size is determined by direct observation within the limitations of sampler size.							IAO	6-4	-

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HAL ALD	EY & RICH				СС	RE B	ORI	NG F	REPORT	Boring No. HA06-4 File No. 33538-000 Sheet No. 3 of 3
Depth (ft)	Drilling Rate Min./ft	Run No.	Depth (ft)	Recove in.	ery/RQD	Weath- ering	Well Dia- gram	Elev./ Depth (ft)	Visual De and Re	scription
45	3	C1	46.0 50.4	24/0	45/0	Weathered	]	46.0	NOTE: Bedrock encountered at 45.0 Begin NQ rock core at 46.0 ft. Very soft to soft, gray, highly weather PHYLLITE. Joints dipping moderate	ered, aphanitic to fine grained
	4 2 2								close, planar and smooth to rough, op	pen, occasional pits, quartz intrusion.
50 –	2 2 4	C2	50.4 55.4	34/0	56/0	Weathered	I		Very soft to soft, gray, highly weathe PHYLLITE. Joints dipping moderate close, planar and smooth to rough, op occasional calcite veins.	to high, extremely close to verv
55 -	2 2 2	~~~					TALLED		Very soft to soft, greenish-gray, mode grained PHYLLITE, joints dipping m partly open to open, occasional calcite	oderate to high angle, very close,
	2	C3	55.4 60.2	48/5	86/10	Weathered	NO WELL INSTALLED		and staurolite present.	, , , , , , , , , , , , , , , , , , ,
60 -	2 4									
	5							60.2	-BOTTOM OF E	EXPLORATION-

	oject ent ntracto	Propos Scott S or Mair	imons te Tes	s Arch st Bori	itects ings, I	nc.	- T	aster F	Planning Portland,				s s	ile I hee tart inis	et N	<u>،</u> ال	1 c Aug	of 2 gust	10,	200 200		
			С	asing	Sar	npler	Barrel		Drilling Equipme				D	rille	r	Т	. So	chae	efer			
Тур	e			HW	5	SS	-	-	Make & Model: Me	bile Dr	ill / Truck			&A					Steir			
Insid	de Dia	meter (ir	n.)	4.0	1.	375	-		Type: Roller Bit Mud: None					leva atu		วก			+i	/- 1 Ci	tur	
Han	nmer \	Veight (I	b.)	300	1	40	-		ing: HW Drive 20	fi O						n		Pla			<u>.y</u>	
Han	nmer F	all (in.)		30	-	30	-		st/Hammer: Winch		ighnut Hammer											
(:		о Х С		am	oth	bof.	\ \	licual	-Manual Identificati	an and	Description		Gra	avel		Sar	1			Field	Te	st
Depth (ft.)	7	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	s Symbol					·		% Coarse	ē	% Coarse	% Medium	9	sə	λ <u>ο</u>	Toughness	lity.	
Dep	SPT <sup>1</sup>	Sa⊓ & R(	Sал Dep	Vell	Elec	uscs	(Density structure, o	y/consi odor, m	istency, color, GROUI oisture, optional desc	PNAME, iptions,	, max. particle siz geologic interpret	e <sup>2</sup> , tation)	0 %	% Fine	00%	% Me	% Fine	% Fines	Dilatancy	ough	Plasticity	
- 0 -							~		-BITUMINOUS (				E.	°`			Ē			-		╞
					0.3		L		21000000			/										
	6	S1	2.0			SP	Medium da	ence	ellow-brown, poorly g	ended 54	A NID (SD) 2					4-						
	11 9	14	4.0		20		odor, mois				עוייר (פר), mps 2	10111, fi0 /								_		
ŀ	13				3.0		Medium de	ense, gi	ray-brown, poorly gra	led SAN	ND (SP), mps 2.0	 mm,	0	0	0	40	50	10				
5 -					4.0		fuel like od	lor, mo	oist													
-	3	S2 15	5.0 7.0			SC	Medium sti	iff, gra	y, clayey SAND with	gravel (S	SC), mps 1.5 in.,		10	5	5	15	30	35				
	3 3						bonded, no	odor,	wet, reworked glacial -FILL													
10 -	3 2 2 3		10.0 12.0	O WELL INSTALLED		SC	Soft, black organic odd reworked n	or, wet	y, clayey SAND (SC), t, trace shells, trace co material -FILL-	75 mm, bonded, si fragments presen	ight t,			5	10	25	60					
15 -	2 4 4 6		15.0 17.0	NO WEI	14.0	CL	bonded, mo	ottling I	ve-gray to gray, lean C becomes less frequent ower portion of spoon -MARINE C	with dep	L), mps 0.075 mr oth, no odor, wet,	n, some						100				
							-		ft), Su > 690 psf ft), Su = 920 psf / 244	) psf												
					23.0			_ ~~ ~	Annya				-+		-				-+			-
						ĺ																
25 -		Wate	r Lev	el Dat	a	. <u>t</u>	[	Sa	ample Identification	<u> </u>	/ell Diagram			<u> </u>	 	nma	arv	1	<u> </u>			_
Da	ate	Time I	Elaps	ed	Dept	th (ft.)	m		Open End Rod		Riser Pipe	Ove	rbu					) 5'	2.2			_
		fr	ime (I	$\frac{\text{br.}}{\text{of } C}$	ottom Casing	Botto of Ho		T	Thin Wall Tube		Screen Filter Sand	Roc							-			
8/10	1/06	12:20	0		•	44.5	10.9	U	Undisturbed Sample	°iq ●	Cuttings Grout	San	nple	es			S7	7				
								S G	Split Spoon Geoprobe		Concrete Bentonite Seal	Bo	rin	g ľ	١o	).		HA	106	-5		

H/ Al	ALEY a DRIC	Š.	1				TEST BORING REPORT			e N	ο.	33	3538	HA( 3-00 of	0	
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coarse D		1		ind IIIIII Magain N	% Fines		Loughness	 
- 25 -	WOR WOR WOR WOH	S5 24	25.0 27.0			CL	Very soft, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, frequent black streaks -MARINE CLAY-						100			
- 30 -							FV3 (30.4 - 31.0 ft), Su = 580 psf / 130 psf									
· 35 -	WOR WOR WOR WOH	S6 24	35.0 37.0			CL	Medium stiff, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, some black streaks, increased percentage of fine sand -MARINE CLAY-					10	90			
40 -							FV4 (40.4 - 41.0 ft), Su = 640 psf / 50 psf									
45	9 19 15 9	S7 12	45.0 47.0	*	43.5	SC	Dense, gray, clayey SAND with gravel (SC), mps 1.5 in., bonded, no odor, wet, some black weathered rock fragments -GLACIAL TILL-		15	5	25	20	35			-
50 -					47.5		-WEATHERED BEDROCK- NOTE: Rollercone refusal at 52.2 ft									_
					52.2		-BOTTOM OF EXPLORATION- NOTE: 1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details. 2. WOR = Weight of drill Rods; WOH = Weight of Hammer.									
<sup>1</sup> SPT :	- Camp			2			size is determined by direct observation within the limitations of sampler size.									

Clie	oject ent ntracto	Scott	Simo	ins Ai	le Park chitect orings,	s		ster Planning Portland, Maine Sheet No. 1 of 2 Start August 15	, 2006
				Casir	ng Sa	ampler	Barrel	Drilling Equipment and Procedures Driller P. Harch	, 2006
Гур	e			НW		SS		Rig Make & Model: Mobile Drill / Truck H&A Rep. B. Stei	nort
		meter	(in )	4.0		.375		Bit Type: Roller Bit Elevation 10.0 +	
		Weight	· · · ·	300	1	140	-	Drill Mud: None Datum Portlan	
		Fall (in.		30		30	-	Casing: HW Drive 40 ft Location See Plan	
								Hoist/Hammer: Winch / Doughnut Hammer Gravel Sand	E:-1-1 T)
Depth (ft.)		Sample No. & Rec. (in.)	Sample	Well Diagram	Elev./Depth	Symbol	\ \	isual-Manual Identification and Description	Field Test
ud:	SPT <sup>1</sup>	mp Rec.	du		9	S S	(Density	Isual-Manual Identification and Description	inne.
	Ч	လူအ	Sa Sa	N N	E = E = E	USCS	structure, o	/consistency, color, GROUP NAME, max. particle size <sup>2</sup>	Toughness Plasticity
0 -	13	S1	0.4		0,4	sw	~	-BITUMINOUS CONCRETE-	
	25 29 31	10	2.4	1	0,4	F SW	Very dense odor, dry t	, brown, well graded SAND with gravel (SW), mps 1 in., no 0 20 20 40 15 5 o moist, some faint black staining -FILL-	
5	WOH 3 13	S2 5	5.0 7.0		3.2	CL	Medium sti slightly bor	ff, brown to gray, sandy lean CLAY (CL), mps 2.0 mm, ded, no odor, moist to wet, reworked natural material -FILL-	
	2 1 4 2	S3 15	10.0 12.0	_	10.5	CL ML	slightly bon Very soft, t	f, brown to gray, sandy lean CLAY (CL), mps 2.0 mm, ded, no odor, moist to wet, reworked natural material <u>-FILL-</u> lack, SILT (ML), mps 0.42 mm, bonded, organic odor, wet,	
				NO WE	13.5		trace organi	cs, shading to gray with depth -HARBOR BOTTOM DEPOSIT-	
5 +	50 (0.2)		15.0	-			NOTE: Spl	it spoon refusal at 15.2 ft on obstruction	
-	71	0 S5	<u>16.0</u> 16.0				NOTE: No	recovery, gray clay observed on spoon -MARINE CLAY-	
_	40 30 32	0	18.0						
	WOR WOR WOR WOH	\$6 24	20.0 22.0			CL	Medium stif wet, occasic	f, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, nal black streaks -MARINE CLAY-	
							NOTE: FV	1 (21.3 - 22.0 ft), Su = 620 psf / 260 psf	
; _									
			ter Le Elap			th (ft.)	to.	Sample Identification Well Diagram Summary	
Da	ite	Time	Time	/h+ [	Bottom		m	Overburden (lin. ft.) 41.5	
					Gasing	of Hol	e		
								S Split Spoon	
	d Te-f				000	<u> </u>		G Geoprobe Bentonite Seal	-6
riel	d Test	5.	ws per	Touc	ancy: hness	:  _ r	apid, S-Slo ow, M-Medi		

USCS\_TB4 USCSLIB4.GLB USCSTB+CORE4.GDT G:/PROJECTS/33538/FIELD FORMS/23536-200.GPJ Sep 12, 06

H/AL	ALEY & DRIC						TEST BORING REPORT	F	⁼ile	No	).	33.	538	IA0 -000 of _2	)		
3		No.	(;	ШĘ	pth	Symbol	Visual-Manual Identification and Description		avel	1	Sar	nd		F	ield ഗ	Tes	<u>st</u>
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Syr	(Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coarse	6 Fine	6 Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
 25 -	WOR WOR WOH	57 24	25.0 27.0	5	ш <u>е</u> 26.0	3 CL 	Medium stiff, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, frequent black streaks starting at 26.0 ft -MARINE CLAY-	~	~	%	-	6	100	<u> </u>	<u> </u>	<u>a.</u>	
	WOH			-			NOTE: FV2 (25.4 - 26.0 ft), Su = 530 psf / 390 psf										
30 -							FV3 (30.4 - 31.0 ft), Su > 690 psf / 150 psf										
15 -																	
							FV4 (36.4 - 37.0 ft), Su = 260 psf / 130 psf FV5 (37.4 - 38.0 ft), Su = 690 psf / 150 psf										
10 -	5	58	40.0														
-	4 50 (0.3)	5	42.0		40.5	SP BR	Loose, gray, poorly graded SAND (SP), mps 2 mm, no odor, wet -MARINE SAND-				5	90	5				
					41.5		NOTE: 1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details. 2. WOR = Weight of drill Rods; WOH = Weight of Hammer.										

0       0       SI       0.0 <th>HALEY ALDRIC</th> <th>&amp; TH</th> <th></th> <th></th> <th></th> <th></th> <th>TEST</th> <th>BORING REPOR</th> <th>RT</th> <th></th> <th>Bo</th> <th>ori</th> <th>ng</th> <th>No</th> <th>•</th> <th>HA</th> <th>06-</th> <th>7</th>	HALEY ALDRIC	& TH					TEST	BORING REPOR	RT		Bo	ori	ng	No	•	HA	06-	7
Casing         Sampler         Barrel         Darrel         Durling Equipment and Procedures         Drills         Plack	Client	Scott	Simons	Arch	nitects	-	rage & Ma	ster Planning Portland, Mair	ne	SI SI	hee tart	et N	io. 1	lof 7 Au	3 gust	200		
The index Diameter (in)       3.0       1.375       Bit Type:       Roller Bit Drill Mudt. Nose       Example:        Example:			C	asing	Sar	npler	Barrel	Drilling Equipment a	and Procedures						-		5	
Inside Diameter (in) 3.0 I.375 Imammer Fall (in) 30 Image: Signal Sign	Туре		1	NW	5	SS	-	Rig Make & Model: Mobile	Drill / Truck	н	&A	Re	ep.	K	Sto	ne		
Hammer Weight (b) 300 140 - Casing: NW Drive 65.0 ft Hammer Fall (n) 30 30 Hoist None Cosing My Drive 65.0 ft Gesing: NW Drive 65.0 ft Hoist Hammer Fall (n) 30 Gesing: NW Drive 65.0 ft Hoist Hammer Fall (n) 30 Gesing: NW Drive 65.0 ft Hoist Hammer Fall (n) 30 Gesing: NW Drive 65.0 ft Hoist Hammer Fall (n) 30 Gesing: NW Drive 65.0 ft Hoist Hammer Witch / Doughaut Hammer Gesing: Statut Annual Identification and Description Gesing: Cosing Annual Identification and Description Hoist Hammer Hall (n) 4 Gesing: NW Drive 65.0 ft Hoist Hammer Hall (n) 4 Gesing Annual Identification and Description Gesing: Cosing Annual Identification and Description Hoist Hammer Hall (n) 4 Gesing Annual Identification and Description Gesing: Cosing Annual Identification and Description Hoist Hammer Hall (N) 4 Gesing Annual Identification and Description Gesing Cosing Annual Identification and Description Gesing Cosing Annual Identification and Description Gesing Cosing Annual Identification and Description Hoist Hammer Hall (N), mps 1.1 in. 	•	meter (	in.)	30	1	375	-	,,					'n					
Hammer Fall (In) 30 30 - Hols/Hammer: Witch / Doughtur Hammer		-					-									id C	ity	
End     State     State     State     State     Field Text       End     State     State     State     State     State     State       Comparison     State     State     State     State     State     State       Comparison     State     State     State     State     State     State     State       State     State     State     State     State     State     State     State       State     State     State     State     State     State     State       State     State     State     State     State     State     State       State     State     State     State     State     State     State       State     State     State     State     State     State       State     State     State     State     State     State     State       State     Sta		-			_		-	• · · · · · · · · · · · ·		-			•••					
0         10         S1         0.0         10<	····			ε		5	-			Gra	ave	I	San	d		Field	d Te	st
0         10         S1         0.0         10<	(H.)	e E V	(t) (t)	agrai	Dept	đu	``	isual-Manual Identification a	and Description	se		se	ium		ۍ د اره	ess		
0         10         S1         0.0         10<	Depth SPT <sup>1</sup>	Sampl & Rec	Sampl	Well Di	Elev./I (ft.)	uscs s				Coal Coal	% Fine	% Coa	% Med	% Fine	% Fine	Toughn	Plasticit	Strength
11 18       12       2.0         11 18       12       2.0         10       5       5.0         10       5       5.7.0         10       5       6         10       5       7.0         10       5       10.0         10       5       10.0         10       5       10.0         11       12.0       15.0         11       12.0       13.0         11       12.0       13.0         13       13.0       13.0         13       13.0       13.0         13.0       CL       Hard, olive-brown to gray, lean CLAY (CL), mps 0.42 mm, motifed. occasional fine sand and sili partings. no odor, wetMARINE CLAY -         -10       13       22       12.0         13.0       CL       Stiff, gray, lean CLAY (CL), mps 0.075 mm, no odor, wet, frequent black streaks         -10       13.0       CL       Stiff, gray, lean CLAY (CL), mps 0.075 mm, no odor, wet, frequent black streaks         -20       3       55       20.0       0       0       0 open End Rod       Screen Scree	- 0 - 10						Medium de	ense, dark brown, silty SAND with	th gravel (SM), mps 1.1 in			-	┝╼┥	-+		+-	╞	f
3       3       3       7.0       4       5       6       52       5.0         10       9       53       10.0       15       25       35       30         10       9       53       10.0 </td <td>11</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>гу</td> <td></td>	11							гу										
0       52       5.0       7.0       15.25 35 30       15.25 35 30         10       10       10       10       10.0       12.0       13.0       13.0         10       9       53       10.0       13.0       13.0       NOTE: No recovery, small piece of wood in tip of spoon. Sheen observed in wash water from 10.0 to 13.0 ft -FILL-       10.0 to 13.0 ft -FILL-         11       7       54       15.0       13.0       CL       Hard, olive-brown to gray, lean CLAY (CL), mps 0.42 mm, motiled, occasional fine sand and sili partings, no odor, wet -Iservet in wash water from 10.0 to 75 mm, no odor, wet -Iservet in wash water from 10.0 to 75 mm, no odor, wet, frequent black streaks       100         -20       3       55       20.0       CL       Stiff, gray, lean CLAY (CL), mps 0.075 mm, no odor, wet, frequent black streaks       100         -20       3       55       20.0       CL       Stiff, gray, lean CLAY (CL), mps 0.075 mm, no odor, wet, frequent black streaks       100         -20       3       55       20.0       0       Open End Rod       100       100         -21       -22       -23       55       20.0       0       14.1       0       Open End Rod       100         -25       -26       -27       -27.0 ft), Su = 1680 psf       0       Open End Rod <td< td=""><td>18</td><td></td><td></td><td></td><td></td><td></td><td></td><td>-FILL-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	18							-FILL-										
15       7       S4       15.0       13.0       17.0       10	6 8 7		1			sw		r, moist	with gravel (SW), mps 1.0		15	25	35	30			;	
15       7       S4       15.0       13.0       17.0       10	4			ELL INSTALLED				h wash water from 10.0 to 13.0 ft										
3       33       22       22.0       22.0       22.0       black streaks       -MARINE CLAY-         -	10 13				13.0	CL		fine sand and silt partings, no od	or, wet					1	00			
-25       Water Level Data       Sample Identification       Well Diagram       Summary         Date       Time       Elapsed       Depth (ft.) to:       O Open End Rod       Riser Pipe       Overburden (lin. ft.) 67.0         8/8/06       06:30       12.5       60.0       62.0       14.1       U Undisturbed Sample       Site of Geoprobe       Site of Concrete Bentonite Seal       Samples S10         Field Tests:       Dilatancy:       R-Rapid, S-Slow, N-None       Plasticity: N-Nonplastic, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High         'SPT = Sampler blows per 6 in.       "Maximum particle size is determined by direct observation within the limitations of sampler size.       Maximum particle size is determined by direct observation within the limitations of sampler size.	4					CL	black strea	-MARINE CLA	•					1	00			
Date       Time       Elapsed Time (hr.)       Depth (ft.) to: of Casing of Hole       O       Open End Rod T       Riser Pipe Screen       Overburden (lin. ft.)       67.0         8/8/06       06:30       12.5       60.0       62.0       14.1       U       Undisturbed Sample S Split Spoon G Geoprobe       Filter Sand Cuttings Grout       Overburden (lin. ft.)       -         Field Tests:       Dilatancy:       R-Rapid, S-Slow, N-None       Plasticity:       N-Nonplastic, L-Low, M-Medium, H-High Dry Strength:       N-None, L-Low, M-Medium, H-High, V-Very High         'SPT = Sampler blows per 6 in.       'Maximum particle size is determined by direct observation within the limitations of sampler size.       Overburden (lin. ft.)       6	- 25																	
Date       Time       Lipsed Time       Bottom of Casing of Hole       Bottom of Hole       Bottom of Hole       Water       T       Thin Wall Tube       Screen       Overburden (in. ft.)       Rock Cored (lin. ft.)       -         8/8/06       06:30       12.5       60.0       62.0       14.1       U       Undisturbed Sample S       Split Spoon G Geoprobe       Cuttings Grout       Samples       S10         Field Tests:       Dilatancy: Toughness:       R-Rapid, S-Slow, N-None       Plasticity: Dry Strength: N-None, L-Low, M-Medium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High, V-Very High         'SPT = Sampler blows per 6 in.       'Maximum particle size is determined by direct observation within the limitations of sampler size.       Sampler size.			1			th (ft	) to:			0							25	
8/8/06       06:30       12.5       60.0       62.0       14.1       U       Undisturbed Sample       Filter Sand       Rock Cored (int. it.)       Samples       Sample	Date	Time		hr i B	lottom	Botto	Mater	O Open End Rod	Screen				-			.0		
S     Split Spoon G     Grout Concrete Bentonite Seal       Field Tests:     Dilatancy: Toughness:     R-Rapid, S-Slow, N-None L-Low, M-Medium, H-High Ory Strength:     Plasticity:     N-None, L-Low, M-Medium, H-High Dry Strength:     N-Medium, H-High N-None, L-Low, M-Medium, H-High, V-Very High       'SPT = Sampler blows per 6 in.     "Maximum particle size is determined by direct observation within the limitations of sampler size.     Source	8/8/06	06:30	<u></u>										e (uri					
Field Tests:         Dilatancy:         R-Rapid,         S-Slow,         N-None         Plasticity:         N-Nonplastic,         L-Low,         M-Medium,         H-High           1SPT = Sampler blows per 6 in.         2 <sup>M</sup> aximum particle size is determined by direct observation within the limitations of sampler size.         1	0.0.00							S Split Spoon G Geoprobe	Grout Grout Concrete	· ·			о.			06-7	,	
<sup>1</sup> SPT = Sampler blows per 6 in. <sup>2</sup> Maximum particle size is determined by direct observation within the limitations of sampler size.	Field Tes	its:	-						city: N-Nonplastic, L-Lo							/en/	Hiel	~ `
Note: Soil identification based on visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	<sup>1</sup> SPT = Sa			3 in.	<sup>2</sup> Ma	ximum	n particle size	is determined by direct observati	ion within the limitations of	sampler	size	e				. ury	اوت	L

H. Al	ALEY &	Хт Н					TEST BORING REPORT	F		No	).	335	538-	IA0 -000 of 3	)		
C Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation) FV2 (25.3 - 26.0 ft), Su = 840 psf / 270 psf	% Coarse	% Fine	ŝ	% Medium Sa		% Fines		Toughness B	Plasticity a	
- 30 -	WOR WOR WOH	\$6 24	30.0 32.0			CL	Medium stiff, lean CLAY (CL), mps 0.075 mm, wet, frequent black streaks -MARINE CLAY-						100				
35 -							FV3 (35.3 - 36.0 ft), Su = 590 psf / 110 psf										
40 -	WOR WOR WOR WOR	S7 24	40.0 42.0			CL	Medium stiff, lean CLAY (CL), mps 0.075 mm, wet, with frequent black streaks -MARINE CLAY-						100				
45 ~							FV4 (40.3 - 41.0 ft), Su = 580 psf / 170 psf										
50 -	WOR WOR WOR WOR	S8 24	50.0 52.0			CL	Medium stiff, lean CLAY (CL), mps 0.075 mm, wet, with frequent black streaks -MARINE CLAY-						100				
- 55 -							FV5 (56.0 - 56.7 ft), Su = 860 psf										
· 60 -	WOR WOR WOR WOR	S9 24	60.0 62.0			CL	Medium stiff, lean CLAY (CL), mps 2.0 mm, wet, trace sand -MARINE CLAY-						100				

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H. Al	ALEY a DRIC	& H	20				TEST BORING REPORT	F	File	No	).	335	538-	<b>IA06</b> -000 of 3			
Depth (ft.)	SPT⁺	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)		% Fine	T 1	% Medium Sa	% Fine	% Fines		Toughness a	Plasticity al	Strength
65	11 32 20 20	Samp Samp Samp Samp	Dept	Well D	64.0 67.0	NSCS M				10 202				Dilatan	Tought	Plastici	Strengt
0							size is determined by direct observation within the limitations of sampler size. anual methods of the USCS as practiced by Haley & Aldrich, Inc.		Во	prir		No.		HA	06-7		

000.GPJ CODMC/2 JECTS/33538 G:VPR GDT 1 Q USCSTB+C GLB **USCSLIB4** Ě

	ALEY a DRIC	& H					TEST	BORING REPORT Boring No. HA	06-8
Proj Clie Cor	-	Scott	Simon	s Arc	e Parkin hitects rings, I	-	irage & Ma	ister Planning Portland, Maine Sheet No. 1 of 2 Start 10 August 200	
			c	asing	) Sar	npler	Barrel	Drilling Equipment and Procedures Driller T. Schaefer	0
Туре	e			NW		SS	-	Rig Make & Model: Mobile Drill / Truck H&A Rep. B. Steinert	
		meter (	in.)	3.0	1.	375	_	Bit Type: Roller Bit Elevation 12.0 +/-	
Harr	nmer V	Veight	(њ.	300		40	-	Drill Mud: None Datum Portland C Casing: NW Drive 25.0 ft Location See Plan	ity
		all (in.)	. 1	30	_	30	-	Casing: NW Drive 25.0 ft Hoist/Hammer: Winch / Doughnut Hammer	
_				ε		5			d Test
(jj		e N N N	_∎ (=	agrai	Jept	Symbol	l V	/isual-Manual Identification and Description	
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	uscs s		/isual-Manual Identification and Description //consistency, color, GROUP NAME, max. particle size <sup>2</sup> , dor, moisture, optional descriptions, geologic interpretation)	Plasticity
- 0 -	15 28 32 23	S1 12	0.0 2.0			SP- SM		e, dark brown to black, poorly graded SAND with gravel 20 10 10 40 10 10 10 nps 1 in., hydrocarbon odor, moist, coal and wood fragments -FILL-	
							NOTE: Si 5.0 ft	milar material to above observed in auger cuttings from 0.0 to	
- 5 -	52 52 42 28	S2 8	5.0 7.0		5.3	<u>SM</u>		e, dark brown to black, well graded SAND with silt (SW-SM), $\begin{vmatrix} 0 & -0 & 10 & 50 & 30 & 10 \\ 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 5 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 15 & 80 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & $	
- 10 -	2 6 6 8	S3 12	10.0 12.0	NO WELL INSTALLED	10.5	<u>SM</u> SM	no odor, w	, yellow-brown to brown, silty SAND (SM), mps 4.75 mm, 0 0 15 50 20 15 et, trace wood fragments 0 0 0 20 45 20 15	
				NO WELL				ense, dark brown to gray, silty SAND (SM), mps 4.75 mm, no some reworked natural material -FILL-	
- 15 -	4	\$4 20	15.0 17.0	-	14.0	CL	Stiff, olive odor, mois	-gray, lean CLAY (CL), mps 0.075 mm, bonded, mottled, no	
	8 11						0001, 11013	-MARINE CLAY-	
					17.0				
- 20 -	WOH WOH 1 3	S5 24	20.0 22.0			CL		gray, lean CLAY (CL), mps 1 in., bonded, no odor, wet, ack streaks -MARINE CLAY-	
	¥)								
- 25									
		Wa	ter Lev			th /4	) to:	Sample Identification Well Diagram Summary	
Da	ate	Time	Elaps Time	(hr   E	Bottom	th (ft. Botto	om	OVerburden (IIn. π.) 54.0	
8/1/	0/06	11:00	0	of	Casing	of Ho 9.1		T     Thin Wall Tube     Filter Sand     Rock Cored (lin. ft.)     0.0       U     Undisturbed Sample     Samples     S10	
								S Split Spoon G Geoprobe Grout G Geoprobe Bentonite Seal	
Fie	eld Test	is:			ancy: hness	L-L	ow. M-Me	ow, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H-High dium, H-High Dry Strength: N-None, L-Low, M-Medium, H-High V-Very I	Hiah
_		malar bla	ws per		<sup>2</sup> Ma	ximum	particle size	is determined by direct observation within the limitations of sampler size. visual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	

A	ALEY &	&- H					TEST BORING REPORT	F	File	N	<b>D</b> .	33	• H 538 2_ 0	-000	)	
Depth (ft.)	SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Symbol	Visual-Manual Identification and Description (Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coarse	% Fine	g	Sa Elipew %		% Fines		Toughness	
- 25 -	WOR WOR WOR WOR	S6 24	25.0 27.0			CL	Very soft, gray, lean CLAY (CL), mps 0.42 mm, bonded, no odor, wet, frequent black streaks and fine sand partings, trace shells -MARINE CLAY-					10	90			1 I
- 30 -	WOR WOR WOR WOR	S7 24	30.0 32.0		30.3	<u>.CL</u>	Very soft, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, trace shells, black streaks/specs become less frequent with depth		~				100			
- 35 -								8								
-40 -	WOR WOR WOR WOH	S8 24	40.0 42.0			CL	Very soft, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, trace fine sand -MARINE CLAY-						100			
45 -																
- 50 -	3 18 26 22 38 40	\$9 12	50.0 52.0		50.2 51.8	SM	Dense, gray, well graded SAND with silt (SW-SM), mps 4.75 mm, bonded, no odor, wet -GLACIAL TILL- -WEATHERED BEDROCK-	0	0	30	0 40	20	10			
	40 52 55	12	54.0		54.0		-BOTTOM OF EXPLORATION-									

HALEY ALDRIC	& <u>r</u> 'H					TEST	BORING REPORT	No.	HAO	96-9	)
Project Client Contracto	Scott S		Arch	itects	-	rage & Ma	Sheet No. Start	33538-00 1 of 2 10 Augu 10 Augu	st 2000		
		Ca	asing	San	npler	Barrel		Schaefe		5	
Туре		I	HW	s	s	-	Rig Make & Model: Mobile Drill / Truck H&A Rep.	B. Ste	einert		
Inside Dia	meter (i	n.)	4.0	1.1	375	-	Bit Type: Roller Bit Elevation	9.5 +	-/- and Cit	hv	
Hammer \	Neight (	lb.} :	300	1	40		Drill Mud: None Datum Casing: HW Drive 20.0 ft Location			. <u>y</u>	
Hammer F	Fall (in.)		30	3	0	-	Hoist/Hammer: Winch / Doughnut Hammer				
~	9 G		am	ht l	Symbol	· · · · ·	Sual-Manual Identification and Description		Field	Tes	t
Depth (ft.) SPT <sup>1</sup>	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	USCS Syn	(Densit	sual-Manual Identification and Description	% Fine % Fines	Dilatancy Toughness	Plasticity	
0 10 10 13	S1 20	0.0 2.0			SP		ise, brown to black, poorly graded SAND (SP), mps 4.75 0 0 20 65 r, dry, wood fragments present -FILL-				_
14	1			1.7	SP	Medium de odor, dry	ise, yellow-brown, poorly graded SAND (SP), mps 2mm, no 0 0 0 15 -FILL-	80 5			
5 2 2 5 5 5	S2 16	5.0 7.0	-	6.0	SP SP	moist, trac	organics 	80 5 90 5			
10 2 2 3 6	\$3 12	10.0 12.0	WELL INSTALLED	10.2	CL		f to stiff, gray, sandy lean CLAY (CL), mps 0.42 mm, th organic odor, moist to wet, shells throughout -MARINE DEPOSIT-	40 60			
15		12.0	NO	14.0							
3 3 4	S4 15	15.0 17.0					f, olive-gray, lean CLAY (CL), mps 0.075 mm, bonded, no	100			r -
2				16.0	CL	Medium st odor, wet		30 70			
20 -						FV1 (20.4	21.0 ft), Su = 560 psf / 110 psf				
25											
	Wa	ter Lev Elaps	1		oth (ft.	.) to:	Sample Identification Well Diagram Summ				
Date	Time	Time (	(hr.) <sup>B</sup>	Bottom Casing	Botto of Ho	om Water	T Thin Wall Tube	n. ft.) ()	2.7 ).0		
8/10/06 8/10/06	12:15 16:00	-		-	10.1	0 4.0 3.8	U Undisturbed Sample S Split Spoon G Geoprobe State S Split Spoon Bentonite Seal	S8 HA	06-9		
Field Te	sts:	L		ancy:		L Rapid, S-S Low, M-Me	w, N-None Plasticity: N-Nonplastic, L-Low, M-Medium, H			liab	

USCS\_TB4 USCSLIB4.GLB USCSTB+CORE4.GDT G:/PROJECTS/3538/FIELD FORMS/33538-000.GPJ 17 Oct 06

HA AU	LEY & DRICH	ž					TEST BORING REPORT	F	File	No	- ).	33	538	IA0 -000	I		
t.)		No. in.)	t.)	ram	epth	Symbol	Visual-Manual Identification and Description	_	avel	1	Sar E				ield g	ĺ	
Depth (ft.)	SPT	Sample No. & Rec. (in.)	Sample Depth (ft.)	Well Diagram	Elev./Depth (ft.)	uscs syi	(Density/consistency, color, GROUP NAME, max. particle size <sup>2</sup> , structure, odor, moisture, optional descriptions, geologic interpretation)	% Coars	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	Strength
- 25 - - -	WOR WOR WOR WOH	\$5 24	25.0 27.0			CL	Medium stiff, gray, lean CLAY (CL), mps 0.075 mm, bonded, no odor, wet, black streaks -MARINE CLAY-						100	<u>.</u>			
- - 30 - -							FV2 (30.4 - 31.0 ft), Su = 640 psf / 130 psf										
- - 35 -	WOR WOR WOR WOH	\$6 24	35.0 37.0			CL	Medium stiff, gray, sandy lean CLAY (CL), mps 0.42 mm, bonded, no odor, wet, frequent fine sand seams -MARINE DEPOSIT-					30	70				
-					38.0				   .								
- 40 - -	6 5 5	<b>S7</b> 14	40.0 42.0			sc	Medium dense, gray, clayey SAND (SC), mps 4.75 mm, bonded, no odor, wet -GLACIAL TILL-	0	0	5	20	40	35				
-	22 92 50 (0.2)	S8 8	42.0 44.0		41.5 42.7	BR	-WEATHERED BEDROCK- -BOTTOM OF EXPLORATION-		L								
							NOTE: 1. FV1 (20.4 - 21.0 ft) indicates in-situ field vane performed at depth interval listed, corrected peak / residual shear strengths are provided. See Table II for details. 2. WOR = Weight of drill Rods; WOH = Weight of Hammer.										
							e size is determined by direct observation within the limitations of sampler size. nanual methods of the USCS as practiced by Haley & Aldrich, Inc.		 Bo	rir	ng	No	 	HA	.06-9	9	

USCS\_TB4 USCSUB4.GLB USCSTB+CORE4.GDT G:\PROJECTS\33538\FIELD FORMS\33538-000.GPJ 17 Oct 06

2008 Test Boring Logs for Proposed MaineHealth/United Way Development (see Reference 4)

H A	HAL LD	EY8 RIC	т Н				TEST	BORING REPO	RT		B	ori	ng	No	).		HA	804	-1
Pro Clie	oject ent	Main	e He e Me	edical (	Cent	ter	-	nt, Portland, Maine	· · · · · ·		Sr St	art	No	). 1 8	561 of Au	4 gus	t 20		
				Casin	g	Samp	oler Barrel	Drilling Equipme	nt and Procedures			nish iller			2 A 1. P			800	
Тур	е			NW	-	S		Rig Make & Model: Mo	bile Drill B-50 Bombard	ier	Н	λA Ι	Rep	). O	). L	awl	or		
•••		meter	(in.)	3.0		13/	/8	Bit Type: Roller Bit Drill Mud: None							1.5			_	
		Neight		300		14	-	Casing: NW drive to 1			<u> </u>	atun			rtlar ee F		_	Da	tun
Han	nmer l	Fall (in	.)	30		30	) -	Hoist/Hammer: Winch PID Make & Model:	Doughnut Hammer					0		1411			
â	SWC	e ci	 	5	€	lod	vis	UAL-MANUAL IDENTIFICATIO	ON AND DESCRIPTION		Gra	avel		San				ield	Te
th (f	e Bla	i. P	nple		epth	Sym		ty/consistency, color, GROUP			Ise		rse	m		s	ς	ness	Ϊţ
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample	Stratum Change	lev/D	USCS Symbol	(	structure, odor, moisture, op GEOLOGIC INTERPI	tional descriptions	,	% Coarse	% Fine	S C 0 0 0 0	% Medium	% Fine	% Fines	ilatar	Toughness	Plasticity
0 -	ů.	0,00			ш 	n		-Bituminous Cor	crete-		1×	8	8	%	%	%			<u>_</u>
							· · ·			/	[								
	20 50 23 26	\$1 16	1.0 3.0			GW		ray, well-graded GRAVEL (G intermixed with 15% concrete -FILL-		ictur <del>e</del> ,	35	35	10	10	10				
	5 8 100	S2 19	3.0 4.5		.0	SM		lark gray, silty SAND (SM), n ntermixed with 10% concrete -FILL-		no –	5	5	30	30	15	15			
5 -	18 13 8 6	S3 22	5.0 7.0			SM	Medium dense odor, moist	e, dark gray, silty SAND (SM -FILL-	, mps 1-3/8 in., no struct	ire, no	5	5	30	30	15	15			
	7	S4	7.0	,		SM	Loose, dark g	ray, silty SAND (SM), mps 1-	3/8 in., no structure, no o	dor,	5	5	30	30	15	15			
	4 2 2	11	9.0		.0		wet	-FILL-											
10-	2 1 3 3	S5 7	10.0 12.0			OL/ OH		sandy ORGANIC SILT (OL/O anic odor, wet -HARBOR BOTTOM	· · ·	nm, no					15	85			
	28 12 11 10	S6 9	12.0 14.0			OL/ OH		e, gray, sandy ORGANIC SIL ure, petroleum-like odor, wet,		nps 2.0					15	85			
15-	7 11 18	S7 24	15.0 17.0		.5	CL		ve-gray, silty lean CLAY (CL no odor, moist -GLACIOMARINE	•	ttling,						100	N	L	L
20	21																		- 10
		Wa				Denth	1 (ft) to:	Sample ID	Well Diagram	-				ima					_
Da	ate	Time		psed e (hr.)	Bott	tom I	Bottom Water	O - Open End Rod T - Thin Wall Tube	Screen	Over			•	•	9	98.5 0	5		
8/1	2/08	1148	+		<u>of Ca</u> 99		101.7 19.1	U - Undisturbed Sample	Filter Sand	Rock Sam			- (I	) 18	3S	0			
	2/08	1230			-		76.0 7.1	S - Split Spoon Sample	Grout Concrete Bentonite Seal	Bori			<b>)</b> .			HA	.08	·1	
Field	i Tests	:					Rapid S - Slow		city: N - Nonplastic L - L trength: N - None L - Lov	ow M-N						10-	- <b>L</b> JI I		
*Nof	te: Ma	ximum a	oartic	le size	s de	etermin	<ul> <li>Low M - Media</li> <li>Med by direct of</li> </ul>	um_H - HignDry s bservation within the limitation visual-manual methods of	ns of sampler size.						_	verv	rng.		

25         WOR S8 25.0 WOR 24 27.0 WOR         CL         Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, moit PV1 (2).3.26.0 ft), Su = 900/250 pdf -GLACIOMARINE DEPOSIT-           30         - <t< th=""><th>F A</th><th>HAL LD</th><th>EY&amp; RIC</th><th>Ĥ</th><th></th><th></th><th>TEST BORING REPORT</th><th>F</th><th>ile</th><th>No.</th><th>  <b>No</b> 2 10.</th><th>3561</th><th>1-00</th><th>HA 0 4</th><th>08-</th><th>1</th></t<>	F A	HAL LD	EY& RIC	Ĥ			TEST BORING REPORT	F	ile	No.	<b>No</b> 2 10.	3561	1-00	HA 0 4	08-	1
WOH       S8       25.0       CL       Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, WOH       100       N       L       L         30       -	Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions	Gr	ave	e e e e e e e e e e e e e e e e e e e	San	d		F	Toughness B	
$40 - 45 - \frac{WOR}{WOR} \frac{S10}{24} \frac{45.0}{47.0}$ $CL  Very soft, dark gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV3 (45.3-46.0 ft), Su = 204/120 psf$ $I00 \text{ N} \text{ L} \text{ L}$	25 -	WOH WOH				CL	moist FV1 (25.3-26.0 ft), Su = $900/250$ psf				12		100	И	L	L
$45 {WOR} \frac{S10}{24} \frac{45.0}{47.0}$ $CL  Very soft, dark gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV3 (45.3-46.0 ft), Su = 204/120 psf$	35-	WOR WOH	21			CL	odor, wet FV2 (35.3-36.0 ft), $Su = 650/330 \text{ psf}$						100	N	L	L
	40 -	WOR WOR				CL	wet FV3 (45.3-46.0 ft), Su = $204/120$ psf						100	N	L	L

F A		EY& RIC	Ĥ			TEST BORING REPORT	F	ile	<b>ing</b> No. et N	3	<b>).</b> 3561 3	1-00	HA 00 4	08-	1
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	1	avel	Coarse -	Medium	d		F	Toughness	
- 50 -						Note: Trace of sand and gravel observed in wash water.									
	WOR WOR WOR	NR	56.0 58.0			Note: No recovery, probable gravel or cobble pushed by spoon tip. FV4 (56.3-57.0 ft), Su = 1220/530 psf									
	WOR WOR WOR	S11 24	60.0 62.0		CL	Very soft, dark gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet, frequent fine sand seams -GLACIOMARINE DEPOSIT-					5	95	N	L	]
65 -	5 1 3 10	S12 14	65.0 67.0	65.0	SC/SM	Very loose, gray, clayey SAND to silty SAND (SC/SM), mps 0.25 in., no structure, no odor, wet -GLACIOMARINE DEPOSIT-		5	15	20	45	15			
70-	23 24 31 43	\$13 24	70.0 72.0	69.0	SM	Very dense, gray, silty SAND with gravel (SM), mps 0.25 in., bonded, no odor, moist -GLACIAL TILL-		10	20	25	30	15			
75 -	44 76 81 100/4"	\$14 15	75.0 77.0		SM	Very dense, gray, silty SAND with gravel (SM), mps 0.25 in., bonded, no odor, moist -GLACIAL TILL-	5	5	20	25	30	15			
	NOTE	Soil Id	entificat	tion hase		sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	B		ng				HA	08-	

H A		EY&	Ĥ			TEST BORING REPORT	F	ile		3	<b>5.</b> 3561 4	1-00		.08-	1
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*,		avel	-	San		es		ield ssau	
Dep	Sampl	Sam & Re	Sa	Elevent	nscs	structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
80-	50 44 56 65	\$15 19	80.0 82.0		SM	Very dense, gray, silty SAND (SM), mps 0.25 in., bonded, no odor, moist -GLACIAL TILL-	5	5	20	25	30	15			
85 -	57 87 102 90	\$16 18	85.0 87.0		SM	Very dense, gray, silty SAND (SM), mps 0.25 in., bonded, no odor, moist -GLACIAL TILL-	5	5	20	25	30	15			
90 -	8 21 62 87	S17 18	90.0 92.0		SM	Very dense, gray, silty SAND (SM), mps 0.25 in., bonded, no odor, moist, occasional pockets of sandy SILT -GLACIAL TILL-	5	5	20	25	30	15			
95 -											-				
				98.5										_	
100-	34 48 71 146	S18 14	100.0 102.0	102.0	BR	Highly weathered SCHIST -WEATHERED BEDROCK- Note: Unable to advance core barrel through casing at 90.0 ft, casing deflected from 90.0 to 100.0 ft.									
				102.0		BOTTOM OF EXPLORATION Notes: 1. FV1 (25.3-26.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details. 2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.									

A		EY&	æ H			TEST	BORING REPO	RT		В	ori	ng		<b>)</b> .		HA	108	-2	<u>}</u>
Clie	ject ent ntracto	Main	e Me	lth/Unite dical Cer est Borir	nter	-	, Portland, Maine			Sr St	e N neet art nish	No	). 1 1	of 2 A	1-0 3 lugu	ist 2			
				Casing	Sam	oler Barrel	Drilling Equipmer	nt and Procedures			iller				Porte		000	,	
Тур	e			NW	S		Rig Make & Model: Mo	bile Drill B-50 Bombard	ier	н	λA Ι	Rep	b. C	). L	awi	or			_
Insid	de Dia	meter	(in.)	3.0	13	/8	Bit Type: Roller Bit Drill Mud: None				eva atun		9 100		'- nd (		Da	** **	
Harr	nmer V	Veight	(lb)	300	14	0 -	Casing: NW drive to 68				cat				Plan		Da	<u>tui</u>	-
Han		all (in	.)	30	30	) –	Hoist/Hammer: Winch PID Make & Model:	Doughnut Hammer											
(£)	SW0	ġć	⊕£	E	Symbol	VISU	IAL-MANUAL IDENTIFICATIO	N AND DESCRIPTION		-	avel		San	d			ield	Те	1
д	er Bl 6 in	ole h C (j	Sample Depth (ft)	atur	Syn	(Density	/consistency, color, GROUP I	NAME, max. particle size*		arse	6	arse	di un	0	se	Ś	nes	Ę,	
Depth (	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Dep Sa	Stratum Change Elev/Depth (ft)	nscs		structure, odor, moisture, opt GEOLOGIC INTERPR			% Coarse	% Fine	°Co %	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
σ-	<u>0</u> 1	S1	0.0		SM		, brown, silty SAND (SM), m	ps 0.25 in., trace wood as	nd ash,				30		-		-	<b>–</b>	-
	5 8	24	2.0			no structure, n	o odor, moist -FILL-												
	12																		
	12 14	NR	2.0 4.0																
	12 9																		
	2	S2	4.0	4.0	-sp -	Loose, red-bro	wn, poorly graded SAND (SP	), mps 4.0 mm, no struct	ure, no	<u> </u>	┣	30	30	40	╞╶┤	┝┥	- +		-
5 -	3 4	19	6.0			odor, moist	-FILL-												
-	6						-1166-												
	5 6	S3 14	6.0	1	SP	Loose, red-bro odor, moist	wn, poorly graded SAND (SP	), mps 4.0 mm, no struct	ure, no			30	30	40					
	2	<b>1T</b>	8.0			5401, III015t	-FILL-												
	1	S4	8.0	7.9	GM	Very loose, bla	ick, silty GRAVEL (GM), mp	s 0.5 in., trace shells and	wood	40	30	5	5	┣-	20	┝┥	- +		-
	1	7	10.0				-FILL-												
	1 1			9.8							L.	L.	L.	L.					
10-	3	S5 4	10.0	10.0	OL/ OH		k, ORGANIC SILT (OL/OH) vet	, mps 2.0 mm, no structu	re, j	20	45	5	5	5	100	- 1	-†		
	11 51	1	12.0		GP		ay, poorly graded GRAVEL (	GP) mps 1-3/8 in	j										2
	54			-		no odor, wet	-FILL-												
						NOTE													
							ced roller bit through rock fill ft and resume sampling.	trom 10.0 to 13.8 ft, adv	ance										
				14.0		<u> </u>		,			<b> </b>				$\square$				
15 -	WOH	NR	15.0	-		Note: No reco	very, probable cobble pushed	by spoon tip.											
	2 4		17.0				-	-											
	4																		
ĺ	4	S6 24	17.0 19.0		CL	Stiff, gray, silt	y lean CLAY (CL), mps 2.0 r -GLACIOMARINE I		, moist										
	4		•																
ŀ				-															
20																			
		Wa		evel Data		(ft) to:	Sample ID	Well Diagram					ima					_	-
Da	ate	Time	Time		ttom	Bottom Water	O - Open End Rod T - Thin Wall Tube	Screen	Overl Rock				•	(	68.7 0	7			
							U - Undisturbed Sample	Cuttings	Samp				.) 10	)S	U				
							S - Split Spoon Sample	Grout Concrete	Bori	ng	No	<b>)</b> .		]	HA	08	-2		
	Tests		_	Dilatano	 sv: R-f	Rapid S - Slow	I N - None Plasti	Entonite Seal		ledi	um	н.	Hiat	<u> </u>					_

l A	<b>LD</b>	EY RIC	Ť			TEST BORING REPORT	F	ile	No.		<b>561</b> 2	1-00		00-	2
£	lows 1.	N. N. N.	e (F	u (ft)	lodn	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	Gra	avel		San	d		Fi	ield ທ	Те
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
- 20						Note: Advanced NW casing to 25.0 ft and wash out with roller bit. Bottom 10.0 ft of casing spun off and could not be retrieved. Relocated boring approximately 5 ft west and resumed sampling at 25.0 ft.									
	WOH WOH WOH	24	25.0 27.0		CL	Very soft, dark gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV1 (25.3-26.0 ft), Su = 610/200 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
30 -				۲											
	WOR WOH WOH		35.0 37.0		CL	Medium stiff, gray, lean CLAY (CL), trace gravei, mps 1.0 in., no structure, no odor, wet FV2 (35.3-36.0 ft), Su = 410/120 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
40 -															
	WOR WOH WOH WOH	S9 24	45.0 47.0		CL	Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV3 (45.3-46.0 ft), Su = 570/160 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
								ori					HA		

H A	IAL LD	EY& RIC	Ĥ			TEST BORING REPORT	F	ile		3	<b>).</b> 561 3	1-00		08-2	2
(£) د	r Blows i in.	e No.	n (ft)	tum nge pth (ft)	symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION		avel	å	San E			Fi ک	eld ssa	
05 Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
55 -	WOR WOR WOR WOR	NR	55.0 57.0			Note: No recovery, gravel in spoon tip. FV4 (55.3-56.0 ft), Su = 490/120 psf -GLACIOMARINE DEPOSIT-									
60 -				61.0		Note: Drill action indicates stratum change at 61.0 ft. Gravel in drill wash water.									
65 -	11 16 16 48/3"	\$10 17	65.0 67.0	66.6	SM BR	Dense, olive-gray, silty SAND (SM), mps 4.0 mm, bonded, no odor, moist -GLACIAL TILL- Note: Recovery from 66.6 to 67.0 ft consists of SCHIST.	-		30	30	25	15			
				68.7		-WEATHERED BEDROCK- Note: Roller cone refusal.								_	_
						BOTTOM OF EXPLORATION Notes: 1. FV1 (25.3-26.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details. 2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.									
Į			entificat						ng	L	L		HA		

Pro Clie	ject	Mair	ne Hea ne Me	alth/Uni dical Co Test Bor	enter	ay Deve		BORING REPO				Sł St	art	t No	). 1 2	of 4 Ju	ily 2	2008		,	
				Casing	Sar	npler	Barrel	Drilling Equipmer	nt and Pi	rocedures			nish iller				ily 2 Porte	2008 er	3		
Тур	e			NW		s		Rig Make & Model: Mo	bile Drill	B-50 Bombardi	er						awl				
Insid	de Dia	meter	(in.)	3.0	1	3/8		Bit Type: Roller Bit Drill Mud: None						tior	-			~.	_		
Ham	nmer \	Veight	(lb)	300	1	40	-	Casing: NW drive to 1									nd ( Plan	City	Da	tur	
Han	nmer l	Fall (in	.)	30		80	-	Hoist/Hammer: Winch PID Make & Model:	Doughn	ut Hammer					5			•			
()	SMO .	9 			<u> </u>	1	VISU	AL-MANUAL IDENTIFICATION	ON AND D	ESCRIPTION		Gr	avel	1	San	*			ield	Te	;
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change	USCS Symbol		(Density	/consistency, color, GROUP structure, odor, moisture, op GEOLOGIC INTERPF	ional des	criptions	1	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
- 0 -								-Bituminous Con	crete-												
•	32	\$1 19	1.0	1.0	) GW			gray, well-graded gravel wit ragments, no structure, no od			with	40	30	15	10	5		$\vdash$	-		•
	17 10	19	3.0	2.0	) SM			ragments, no structure, no oc gray, silty SAND (SM), mp			<u> </u>		┣-	30	30	25	15	┝┥	-+		•
	7			4		odor,	moist														
	5 12 11 8	S2 20	3.0 5.0	4.5	SM	cinde	rs, mps 0.	gray, silty SAND (SM), inte 25 in, no structure, no odor, -FILL-	moist							25					
- 5 -	2	<b>\$</b> 3	5.0		, Lew			red-brown, well-graded SAN lor, moist, sample composed			trace			30	40	30					
	2	9	5.0 7.0				and coal		-												
	1 2							-FILL-													
	9 8 6 3	S4 4	7.0 9.0		GP			dark brown, poorly-graded ( ass and wood fragments -FILL-	<b>FRAVEL</b>	(GP), mps 1-3/8	in.,	40	35	10	5	5	5				
- 10 -	1 1 2 2	\$5 20	10.0 12.0		SM			y, silty SAND (SM), intermi structure, no odor, wet, orga -FILL-			ash, — —			30	30	25	15				
	1 3 3 2	S6 18	12.0 14.0		ML			ray, SILT with sand (ML), n e organic matter, no structure -HARBOR BOTTOM	, hydroge	n sulfide odor, n	noist					10	90				
15-	WOH WOH 1 2	\$7 16	14.0 16.0		ML			, SILT with sand (ML), mps hatter, no structure, hydrogen			ents,					10	90				
	WOH	<b>S</b> 8	16.0	16.1	ML			, SILT with sand (ML), mps			ents,	_	-		$\vdash$	10	90 95	┝╌╢			
	2 5 7	21	18.0		CL	trace Medi	organic m um stiff, g	atter, no structure, hydrogen gray with occasional mottled b onal fine sand pockets, trace	sulfide oo rown, lea root fiber	lor, moist in CLAY (CL), i s, no odor, moist	/					5	95				
				18.0	'	$\uparrow$		-GLACIOMARINE I BOTTOM OF EXPLO			/			1	$\vdash$				-		•
						Notes		eight of Hammer.													
						<u> </u>		-Dire of Andreamore													-
		Wa		evel Da		th (ft) t	0.	Sample ID		ell Diagram Riser Pipe				Sum							•
Da	ate	Time			Bottom	Bottom		. O - Open End Rod T - Thin Wall Tube		Screen	Overl						18.0	)			
7/2	4/08		+	<u> </u>	Casing 16.0	<u>of Hole</u> 18.0	4.0	U - Undisturbed Sample	<u></u>	Filter Sand Cuttings	Rock Samp			i (fi	<i>,</i>	s	0				
	4/08			).5	-	18.0	7.5	S - Split Spoon Sample		Grout Concrete	Bori			o.		-	HA	<b>.08</b>	-3		
Field						Rapid		L		Bentonite Seal Nonplastic L - Lo											•

A		EY& RIC	х Н			1	TEST	BORING REPOI	RT		ori			J.		HA	108	8-4
Clie	oject ent ntracto	Main	e Med	lth/Unite lical Cer est Borir	nter		elopment	, Portland, Maine		S S	le N hee tart inish	t No	5. 1 4	of Au	1-00 3 gusi gusi	t 20		
				Casing	Sam	pler	Barrel	Drilling Equipmen	t and Procedures	1	rille				orte		00	
Тур	e			HW	s			Rig Make & Model: Mol	oile Drill B-50 Bombardier	Πн	&A	Rej	b. C	). L	awl	or		
Insid	de Dia	meter	(in.)	4.0	13	/8		Bit Type: Roller Bit Drill Mud: Bentonite					_1			<b>.</b>	_	
Harr	nmer \	Veight	(lb)	300	14	0	-	Casing: HW Drive to 6					Po: S		_		Da	tur
Han	nmer I	-all (in	.)	30	30	)	-	Hoist/Hammer: Winch PID Make & Model:	Doughnut Hammer				ĩ			•		
0	SWC	e c		Ê	िष्ठ		visu	IAL-MANUAL IDENTIFICATIO	N AND DESCRIPTION	Gi	ave		San	d		_	ield	Te
th (f	6 Blo	le ci ⊡	th (f	ttum epth	Symbol			/consistency, color, GROUP I		es		Se	lium I		ŝ	S	ness	j≩
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	nscs		(Density	structure, odor, moisture, opt GEOLOGIC INTERPR	onal descriptions	% Coarse	% Fine	Coarse	% Medium	% Fine	Fines	Dilatancy	Toughness	Plasticity
0-	Sa	<u>v</u> ,∞		<u> </u>	ļ Š					%	8	%	%	%	%	ā	ř	Ē
	15	S1	0.5	0.5	SP-	Dens	e, dark br	-Bituminous Con own, poorly-graded SAND wi		5	╂─	30	40	15	10	-	$\dashv$	
	13 17 14 11	23	2.5		SM				h, no structure, no odor, mois	1 -								
	14 12 12 25	S2 7	2.5 4.5		SP- SM		el, mps 1-3		AND with silt (SP-SM), trace nder, ash, no structure, no odd	or, 5		30	40	15	10			
5 -	8 10 7 8	S3 24	5.0 7.0	-	SM			, brown, silty SAND (SM), m no structure, no odor, moist -FILL-	ps 0.5 in., intermixed with 20	6		30	30	20	20			
	8 5 3	S4 4	7.0 9.0		SP- SM			own, poorly-graded SAND wi structure, no odor, moist	th silt (SP-SM), mps 0.25 in.,			35	40	15	10			
10-	2 4 4 6	S5 6	9.0 11.0		SP- SM			own, poorly-graded SAND wi ce shells and glass, no structu	th silt (SP-SM), mps 0.25 in., re, по odor, wet			35	40	15	10			
	2 3 4	S6 12	11.0 13.0	11.0	-SM-		e, gray, si ture, no oc	Ity SAND (SM), trace gravel dor, wet	and roots, mps 0.25 in., no		5	15	30	30	20			
	3 WOH		13.0	13.0	ML	Soft	aray san	dy SILT (ML) trace fine gray	el, mps 0.25 mm, trace shells,		5		15	30	50			
	1 3 3	21	15.0			1 '	0.1	o odor, wet -HARBOR BOTTOM	, <b>,</b> , , , , , , , , , , , , , , , , ,				15	50	50			
15-	4 12 12 15	S8 5	15.0 17.0		ML			/, sandy SILT (ML), trace fine ture, no odor, wet, clay in tip			5	10	15	20	50			
	4 6 10 14	\$9 24	17.0 19.0	16.9	CL			y, silty lean CLAY (CL), mps ructure, no odor, moist -GLACIOMARINE I							100	N	L	L
				]														
20 J			iter Le	vel Data	a	1		Sample ID	Well Diagram			Sun	nma	l Inv			1	
n,	ate	Time	Elap	sed	Dept	n (ft) t	0:	O - Open End Rod	Riser Pipe	verbu					66.0			
			Time			Bottom of Hole	Water	T - Thin Wall Tube	Filter Sand	ock C		•			0			
								U - Undisturbed Sample S - Split Spoon Sample	Grout	ample	s		17S,					
										oring	j No	0.		]	HA	.08	-4	
	I Tests		Ĩ.	Dilatano		Dental		hi historia Diseñio	tty: N - Nonplastic L - Low									

H A	HAL ALD	EY& RIC	Ĥ			TEST BORING REPORT	F	ile	No	J No	3561	1-00	HA	08-	4
		-	1	(£	ō	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	<u> </u>	ave		San		of		ield	Te
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
20-	1 3 4 4	\$10 24	20.0 22.0		CL	Medium stiff, gray, silty lean CLAY (CL), mps 2.0 mm, occasional brown mottling, no structure, no odor, moist			Ī				N		L
	1 3 3 3	S11 12	22.0 24.0		CL	Stiff, gray, silty lean CLAY (CL), mps 2.0 mm, occasional brown mottling, no structure, no odor, moist FV1 (22.3-23.0 ft), Su = $1,045$ psf						100	N	L	L
						-GLACIOMARINE DEPOSIT-									1
25 -	P U S H	U1 23	25.0 27.0												
						FV2 (27.3-28.0 ft), Su = $590/160$ psf									
30 -	WOR WOR WOR WOR	S12 22	30.0 32.0		CL	Medium stiff, dark gray, lean CLAY (CL), trace fine sand and gravel from 31.7 to 32.0 ft., no structure, no odor, wet FV3 (30.3-31.0 ft), Su = $500/90$ psf					5	95	N	L	L
	P U S H	U2 23	33.0 35.0					:							
35 -						FV4 (35.3-36.0 ft), Su = 340/65 psf -GLACIOMARINE DEPOSIT-									
40 -	WOR WOR WOR WOR	\$13 22	40.0 42.0		CL	Soft, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet Su = $400/120$ psf FV5 (40.3-41.0 ft), Su = $400/120$ psf						100	N	L	L
45 -	WOR WOR WOR WOR	S14 24	45.0 47.0		CL	Soft, gray, lean CLAY (CL), trace gravel, mps 2.0 mm, no structure, no odor, wet FV6 (45.3-46.0 ft), Su = 420/110 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
	NOTE:	Soli id	entificat	tion based	d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	в	ori	ing	No	•		HA	08-	4

H A	ID	EY& RIC	Ĥ			TEST BORING REPORT	F	ile She	No.	lo.	3561	1-00	3			
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	ŝ	% Medium	T	% Fines		Toughness	Plasticity a	
50 -	WOR WOR WOR	\$15 24	50.0 52.0		CL	Medium stiff, gray, lean CLAY (CL), trace gravel, mps 2.0 mm, no structure, no odor, wet FV7 (50.3-51.0 ft), Su = 610/80 psf						100	N	L	L	
55 -	WOR 3 3 6	S16 24	55.0 57.0	55.4	-sc-	Loose, gray, clayey SAND (SC), mps 4.0 mm, no structure, no odor, wet -GLACIOMARINE DEPOSIT-					75	25				
60 -	13 17 24 34	\$17 24	60.0 62.0	58.8	SM	Dense, gray, silty SAND (SM), trace gravel, mps 1-3/8 in., bonded, no odor, moist -GLACIAL TILL-		5	20	30	30	15				
65 -				64.4		Note: Drill action indicates probable bedrock at 64.4 ft. -WEATHERED BEDROCK- Note: Roller bit refusal at 66.0 ft. BOTTOM OF EXPLORATION Notes: 1. FV1 (22.3-23.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details. 2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.										
		Soil id			d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.		lori	ing	No			HA	.08-	4	

Clie	ject ent htracto	Main	e Me	dical (		•	velopment	, Portland, Maine			Sř St	e N neet art nish	No	). 1 3	561 of 1 Ju Au	4 uly:	200			
				Casin	ig Sar	npler	Barrel	Drilling Equipmen	t and Procedures			iller			1. F	-		000		
Тур	e			NW		s	NQ	Rig Make & Model: Mot	ile Drill B-50 Bombard	lier	H	<u>SA</u>	Rep	b. C	). L	awl	lor		_	
Insid	de Dia	meter	(in.)	3.0	1	3/8	2.0	Bit Type: Roller Bit Drill Mud: None							+/ rtla		City	Da	itiii	m
	nmer i	Veight Fall (in	· /	300 30		40 30	-	Casing: NW drive to 63 Hoist/Hammer: Winch PID Make & Model:							ee ]					-
€	Blows in.	(in).	e€	gram	E S E	Symbol	VI	SUAL-MANUAL IDENTIFICAT	ION AND DESCRIPTIO	N		avel 	<u> </u>	San F	· · · ·			ield ខ្ល		1
Depth (ft)	Sampler E per 6 i	Sample No. & Rec. (in.)	Sample	Well Diagram	Stratum Change Elev/Depth (	USCS Sy	(Den:	sity/consistency, color, GROU structure, odor, moisture, c GEOLOGIC INTER	ptional descriptions	ize*,	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -	4 9 11 22	<b>S1</b> 11	0.0 2.0			SP		dense, brown, poorly-graded S trace cinder and ash, mps 1.0 -FILL-	n., no structure, no odor				30	40	25	5				
	22 19 13 11	S2 14	2.0 4.0		21	SW- SM		rown, well-graded SAND with lers and ash	silt (SW-SM), mps 1-3/	8 in.,			30	40	20	10				
5 -	6 5 2 3	S3 8	4.0 6.0			SW- SM		rown, well-graded SAND with lers and ash -FILL-		8 in.,			30	40	20	10				
	2 1 1 6	S4 5	6.0 8.0			SW- SM		se, brown, well-graded SAND cinders and ash, wet	with silt (SW-SM), mps	1-3/8			30	40	20	10				
	6 5 2	S5 7	8.0 10.0		8.0	SM-		ay, silty SAND (SM), mps 0.3 s, no structure, no odor, moist	5 in., trace shell and bric	<u>k</u> — — –			20	30	35	15				1
10-	1							-FILL-												
	2 2 3 3	\$6 20	10.5 12.5		10.5	OL/ OH		stiff, dark gray, ORGANIC SI l fragments, no structure, orga -HARBOR BOTTO	nic odor, moist	in.,						100				-
	10	\$7 6	13.0		13.0	CL		stiff, olive-gray, silty lean CLA no odor, moist, probable rocl		10						100	N	L	L	
	11 14 15	Ŭ	15.0				Ju uoturo,		passion of spoon											
5-	3 4 4 5	S8 20	15.0 17.0	1.0.1.10		CL		stiff, gray with brown mottles, tructure, no odor, moist -GLACIOMARINE	•	mps 2.0						100	N	L	L	
20	-																			
	I	Ŵa		evel D		th (44)	to:	Sample ID	Well Diagram	<u> </u>				nma	iry					-
Da	ate	Time		psed e (hr.)	Bottom	th (ft) Botton	n Water	O - Open End Rod T - Thin Wall Tube	Screen	Overt						53.8				
			$\square$		of Casing	ot Holi		U - Undisturbed Sample	Filter Sand	Rock			•	•	, 10	5.0 2				
								S - Split Spoon Sample	Grout Concrete Bentonite Seal	Bori	ng	No					-5(	OV	V)	

H&A-TEST BORING-07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT G:/PROJECTS35611/FIELD PROGRAM33611-000 TB.GPJ

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H A		EY& RIC	Ĥ				TEST BORING REPORT	F	ile	No.	1 <b>No</b> 3	561	HA 1-00 of	)0 4		
(¥)	Blows in.	(in.) No.	(tt)	Igram	um ge oth (ft)	Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION		avel		San			۲ ۲	ield ss	
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	nscs s	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
20 -							FV1 (20.3-21.0 ft), Su = 720/260 psf									
25 -	WOR WOR WOH	S9 24	25.0 27.0	e 76 2 15 15 16 20 20 20 20 20 20 20 20 20 20 20 20 20		CL	Medium stiff, gray to black, lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist FV2 (25.3-26.0 ft), Su = 720/200 psf	-					100	Ν	м	М
30 -							FV3 (30.3-31.0 ft), Su = 730/170 psf -GLACIOMARINE DEPOSIT-									
	WOR WOR WOR WOR	S10 21	35.0 37.0			CL	Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV4 (35.3-36.0 ft), Su = 600/290 psf						100	И	L	L
40 -	WOR WOR WOR WOR	S11 24	40.0 42.0	9 0 0 9 0 0 9 0 0 9 0 0 9 0 0 9 0 0 9 0 9		CL	Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet FV5 (40.3-41.0 ft), Su = 600/190 psf -GLACIOMARINE DEPOSIT-		-				100	И	L	L
45 -																
			entifica	<sup>ا بو</sup> ا و بو اه	-			B					HA			

H A			Ĥ				TEST BORING REPORT	F	ile hee	No. et N	3 lo.	5611 3	-00	4			
ŧ	Jows Jows	No.	e E	Jram	E e t	Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION		avel		San F		ŀ		2	Tes	1
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	uscs sy	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
50 -	WOR WOR WOR	S12 24	50.0 52.0	0-0-0-0 0-0-0-0 0-0-0-0		CL	Medium stiff, gray, lean CLAY (CL), fine sand in spoon tip, mps 2.0 mm, no structure, no odor, wet FV6 (50.3-51.0 ft), Su = 700/370 psf					5	95	N	L	L	
	WOR			10 10 10 10			-GLACIOMARINE DEPOSIT-										
				10 0 0 10 0	53.0		Note: Sand and fine gravel observed in wash water.										
60 -	16 9 7 10	NR	60.0 62.0				-PROBABLE GLACIAL TILL-										
65 -	36 <u>≽0/1</u> "∫	\$13 5_/	63.2 \63.7 /		62.5		<ul> <li>Note: Casing refusal at 62.5 ft. Advanced roller bit to 63.8 ft. Begin NQ Rock Core at 63.8 ft. See Core Boring Report for Details.</li> <li>Notes: <ol> <li>FV1 (20.3-21.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details.</li> <li>WOR = Weight of Drill Rods; WOH = Weight of Hammer.</li> </ol> </li> </ul>										
	NOTE:	Soli id	entifica	tion ba	sed on v	ieuaLr	nanual methods of the USCS as practiced by Haley & Aldrich, Inc.	8	ori		No.			.08-:	5(0		

	HA ALI	LEY& DRIC	H			со	RE B	ORIN	IG REPORT	Boring No. HA08-5(OW) File No. 35611-000 Sheet No. 4 of 4
	Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recove	ry/RQD	Weath- ering	Elev./ Depth (ft)	Visual Desc and Rem	ription arks
ŀ				<u> </u>		/0			SEE TEST DODING DEDORT FO	
	- 65 -	6	C1	63.8 65.4	19 0	99 0			SEE TEST BORING REPORT FO. Moderately hard, moderate to highly weathered, SCHIST. Foliation is extremely thin, vertical. The vertical, extremely close, smooth, stepped, fresh Note: RQD affected by extremely close fracture	dark green aphanitic CHLORITE Primary joint set is parallel to foliation, to discolored with pyrite, open.
	- - -	6 6 7	C2	65.4 68.8	36 12	88 29		65.4	Moderately hard, moderate to highly weathered, SCHIST. Occasional, very thin, high angle to ve parallel to foliation, vertical, extremely close, sm pyrite, open.	ertical quartz veins. Primary joint set is
								68.8	BOTTOM OF EXP	LORATION
	- 70 -								Note: Observation Well installed in completed bo	rehole. See installation report for details.
	- 75 -									
G:\PROJECTS35611\FIELD PROGRAM35611-000 TB.GPJ 10 Sep 08	- 80 -									
03-08.GLB HA-TB+CORE+WELL-07-1.GDT	- 85 -									
I+A_CORE+WELL07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT	- 90 —									5

Pro Clie	JAL Ject ent htracto	Mair Mair	e Hea e Med	lth/Unite lical Cer est Borir	iter		velopment	, Portland, Maine				Sř St	e N neel art nish	No	). 1 2	561 of 3 Ju 4 Ju	1 Ily 2	200			
				Casing	Sam	oler	Barrel	Drilling Equipmer	t and i	Procedures			iller			1. P			-		
Han	de Dia nmer \	meter Veight Fall (in	(lb)	NW 3.0 300 30	S 13 14 30	/8 0	  -	Rig Make & Model: Mo Bit Type: Roller Bit Drill Mud: None Casing: NW drive to 12 Hoist/Hammer: Winch PID Make & Model:	2.0 ft.		dier	El Da	eva	tion n	l Poi	0. L = 0 + rtlar	/- nd C	City	Da	tun	<u>r</u>
(	SM	o 🗇		Ê	8		VISU	AL-MANUAL IDENTIFICATIO		DESCRIPTION		Gra	avel	5	San				ield	Te	s
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol		(Density	/consistency, color, GROUP I structure, odor, moisture, op GEOLOGIC INTERPF	NAME, ional de	max. particle size	·*,	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -	2 5 13	\$1 22	0.0 2.0		SM	Mec moi		, brown, silty SAND (SM), m -FILL-	ps 1.0 i	n., no structur <del>e</del> ,	no odor,		5	30	30	20	15				
	6 13 17 17 18	S2 21	2.0 4.0		SM			brown, silty SAND (SM), mj no structure, cinder odor, mo		n. trace brick frag	ments,		5	30	30	20	15				
_	5 6	\$3 20	4.0 6.0		SM	frag	ments, cind	, gray to brown, silty SAND ( lers, wood, no structure, cind	er odor,	moist			5	30	30	20	15				
5 -	9 10			5.0	SW			, light brown, well-graded SA .5 in., no structure, no odor,		V), occasional sil		Γ	5	30	35	30			_ ]		
	6 2 2 2	S4 16	6.0 8.0		sw			own, well-graded SAND (SW) mps 0.25 in., no structure, n			lark		5	30	35	30					
	3 4 3 4	S5 8	8.0 10.0		SM		se, dark bro dor, wet	own, silty SAND with gravel -FILL-	( <b>SM</b> ), n	nps 1.0 in., no st	ructure,	5	5	20	25	25	20				
10-	5 4 7	S6 2	10.0 12.0		SM			dark brown, silty SAND wit dor, wet, trace brick and shell			n., no	5	5	20	25	25	20				
	5 4 2 5	<b>S7</b> 14	12.0 14.0	12.3	SM ML	∖ <u>no o</u> Soft	dor, wet, ti , gray, sand	own, silty SAND with gravel race brick and shell fragments ly SILT (ML), little shell frag fine sand seams, no odor, moi -HARBOR BOTTOM	ments, st	trace clay, freque	/	5	5	20,	25,	25 5	20, 95	-			•
								BOTTOM OF EXPLO		JN											
		Wa	1	evel Data	a Deptł	) <i>(</i> #)	to:	Sample ID	V T	Vell Diagram Riser Pipe					nma						-
	ate /A	Time	Elap Time	(hr Bo	ttom	Botton	Nator	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample		Screen Filter Sand Cuttings	Over Rock Sam	Co	red	•	•		0	)			
								S - Split Spoon Sample		Grout Concrete Bentonite Sea	Bori	ng	No	<b>)</b> .		]	HA	.08	-6		

Pro Clie	ject	Main	e Hez e Me	dical	nited Wa Center orings, I	ay Dev		BORING REPOI			Sł	le N neel		). 1 3	of 0 Ji	ily 2	200			_
				Casi	ng San	npler	Barrel	Drilling Equipmen	t and Procedures			nish riller				ily 2 Porte		8		
Тур	е			NW		s	NQ	Rig Make & Model: Mot	oile Drill B-50 Bombard	lier	- ·	ΒA Ι								
Han	nmer \ nmer I	meter Veight Fall (in	(ib)	3.0 300 30	1	3/8 40 30	2.0	Bit Type: Roller Bit Drill Mud: None Casing: NW drive to 62 Hoist/Hammer: Winch PID Make & Model:			Di	eva atun ocat	n	Po	rtla	nd (	_	Da	tun	n
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol		SUAL-MANUAL IDENTIFICA sity/consistency, color, GROU structure, odor, moisture, GEOLOGIC INTER	P NAME, max. particle s		% Coarse	avel % Line	% Coarse	San Wedium %		% Fines	Dilatancy <sub>H</sub>	Toughness a	Plasticity a	Т
0 -	6 12 13 12	S1 15	0.0 2.0			SW- SM	mps 0.25	lense, dark brown, well-grade in., intermixed with 10% ash no odor, moist -FILL-	and brick, trace wood, r						20					
	6 12 21 25	S2 16	2.0 4.0			SW- SM	in., interr	ark brown, well-graded SANE nixed with 10% ash and brick ts, no structure, no odor, moi	, trace wood, occasional						20					
5 -	5 7 12 9	S3 24	4.0 6.0		•	SM		dense, brown, silty SAND (SM cinder and ash fragments, no -FILL-	structure, no odor, mois				20	30	30	20				
	3 4 5 2	S4 24	6.0 8.0		6.2	SM SM	\cinder and	own, silty SAND (SM), mps d ash fragments, no structure, ay, silty SAND (SM), mps 4.	no odor, moist	/			20 20	30 30	30 25	20 25				
	7 15 14 10	\$5 20	8.0 10.0		8.0	_s₩_		lense, light brown, well-grade ire, no odor, wet -FILL-		'8 in.,			35	30	30					İ
10-	3 2 2 2	S6 10	10.0 12.0		10.0	SM-		e, gray, silty SAND (SM), tra no odor, wet -FILL-					20	30	30	20				
	1	S7	12.0		12.5	SM	-	e, gray, silty SAND (SM), tra	ace clay, mps 4.0 mm, no	0			20	30	30					
	1 2	17	14.0			OL/ OH	Soft, dark	no odor, wet brown, ORGANIC SILT (OI		ells,	]				5	95				
	1	NR	14.0	1	14.0		mps 2.0 n	nm, no structure, organic odo -HARBOR BOTTO	· ·	/	┝	-								
15-	4 4 7	1412	14.0				Note: No	o recovery, probable gravel pu	ished by spoon through c	lay.										
	2 3 4 7	S8 24	16.0 18.0			CL		stiff, mottled olive-gray, lean no odor, moist -GLACIOMARINI		n, no						100				
						8														
20		 Wa	ater L	evel [	L Data	<u> </u>	L	Sample ID	Well Diagram	1	<u> </u>	<u>ا</u>	ı Sum	l 1ma	I		L		_	1
Di	ate	Time		psed e (hr.)	Dep Bottom of Casing	th (ft) Bottor of Hol	n Water	O - Open End Rod T - Thin Wall Tube	Riser Pipe Screen Filter Sand	Over Rock		den	(fl	t)	(	5 <b>2</b> .0 10.0			_	-
								U - Undisturbed Sample S - Split Spoon Sample	Cuttings Grout Concrete Bentonite Sea	Sam Bori					, 20 HA		-7(	ov	<b>v</b> )	-
Field	i Tests	:	. <b>.</b>	Dila	tancy: R	- Rapid	S - Slow	N - None Plastic	ity: N - Nonplastic L - L		/ledi	um	Н-	Higl	h			h		-

H A	HAL	EY&	ж Н			•	TEST BORING REPORT	F	File			3561	1-00	<b>408</b>		ЭМ	1
				ε	Ê	ō		+	ave	_	sar			_	ield	Te	-
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	e,	Medium	1	% Fines		Toughness		
- 20 -	WOR WOH WOH WOH	S9 24	20.0 22.0			CL	Medium stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist FV1 (20.3-21.0 ft), Su = 830/320 psf -GLACIOMARINE DEPOSIT-						100	N	L	L	
25 -							FV2 (25.3-26.0 ft), Su = 730/170 psf										
	WOH WOH WOH WOR	\$10 24	30.0 32.0			CL	Medium stiff, gray, lean CLAY (CL), occasional partings along fine sand seams, no odor, moist FV3 (30.3-31.0 ft), Su = 680/280 psf -GLACIOMARINE DEPOSIT-						100	N	L	L	
35 -							FV4 (35.3-36.0 ft), Su = 870/210 psf										
40 -	5 5 9 19	\$11 2	40.0 42.0		38.0	SM	Medium dense, gray, silty SAND with gravel (SM), mps 1-3/8 in., well bonded, no odor, wet -GLACIAL TILL-	5		15	30	30	20				
45 -	12 8 9 10	\$12 21	45.0 47.0			SM	Medium dense, gray, silty SAND with gravel (SM), mps 1-3/8 in., well bonded, no odor, wet -GLACIAL TILL-	5	5	15	25	30	20				
		0,0,0,0,0					nanual methods of the USCS as practiced by Haley & Aldrich, Inc.			ing			H	408	-7(0		,

H A		EY&	Ĥ				TEST BORING REPORT	F	ile	No.	<b>No</b> 3 lo.	561	I-00	0 <b>8-</b> 0 4	7(0	<b>W</b> )
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Well Diagram	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	ø	% Medium		% Fines		Toughness B.	Plasticity a
- 50 -	8 6 9 16	\$13 22	50.5 52.5				Note: Drilled through cobble from 50.1 to 50.5 ft. Medium dense, silty SAND with gravel (SM), mps 1-3/8 in., well bonded, no odor, wet -GLACIAL TILL-	5	5	30	25	20	15			
- 55 -																
- 60 -	40 75 125 50/1"	S14 12	60.0 61.6		60.1 61.6		Very dense, silty SAND with gravel (SM), mps 1-3/8 in., well bonded, no odor, wet, 1/2 to 1-3/8 in. fragments of weathered CHLORITE SCHIST -WEATHERED BEDROCK- Note: Bedrock encountered at 61.6 ft. Advanced roller bit to 62.0 ft.	5	5	15	25	35	15			
65 -							<ul> <li>Note: Bedrock encountered at 01.6 ft. Advanced roller bit to 02.0 ft. Begin NQ rock core at 62.0 ft. See Core Boring Report for details.</li> <li>Notes: <ol> <li>FV1 (20.3-21.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details.</li> <li>WOR = Weight of Drill Rods; WOH = Weight of Hammer.</li> </ol> </li> </ul>									
70 -																
	NOTE		entifier	tion		ieusi-	nanuai methods of the USCS as practiced by Haley & Aldrich, Inc.	R	ori	na	No.		HA	108-	7(0	

H	ALEY LDRIC	& H			СО	RE B	ORIN	G REPORT	Boring No. HA08-7(OW) File No. 35611-000 Sheet No. 4 of 4
Dep (ft)	th Drilling Rate (min./f	No	Run Depth (ft)	Recove	ry/RQD	Weath- ering	Elev./ Depth (ft)	Visual Desc and Rem	ription
-	2 2 2 2	Cl	62.0 67.0	36 6	60 10			SEE TEST BORING REPORT FO. Moderately hard, moderate to highly weathered, Foliation is extremely thin, high angle to vertical high angle to vertical, close to extremely close, r discolored with pyrite, tight.	dark gray, aphanitic SILTSTONE. Primary joint set is parallel to foliation.
- 65	2						67.0		
-	2 2 3	C2	67.0 72.0	24 0	40 0		07.0	Note: Recovery consists of 1.0 to 3.0 in. pieces weathered, aphanitic SILTSTONE, due to extrem action.	and fragments of hard, dark gray, slightly ely close fracture spacings and drill
- 70	3						72.0	Note: Advanced roller bit to 70.6 ft. to flush uni to 65.0 ft after removal of drill rods.	
80 day 2	2						72.0	BOTTOM OF EXF Note: Observation well installed in completed bo	
80	_								
85				ī					
90	-								

Pro		EY& RIC	H			TEST	BORING REPO	RT				ng							3
Clie Cor	•	Mair	e Me	alth/Unite dical Cen 'est Borin	nter	-	, Portland, Maine			Sř St	le N neel art nish	t No	). 1 6	561 of Au Au	3 gus	t 20			
				Casing	Sampl	ler Barrel	Drilling Equipmer	nt and Procedures		Dr	iller		N	1. P	orte	ег	.00		
Тур	е			нw	S		Rig Make & Model: Mo	bile Drill B-50 Bombardi	er	Hδ	λA Ι	Rep	). O	). L	awl	or			
nsic	de Dia	meter	(in.)	4.0	1 3/8	3	Bit Type: Roller Bit Drill Mud: Bentonite							+/ rtlaı			De	*•••	~
larr	nmer V	Veight	(lb)	300	140	-	Casing: HW Drive to 5							ee I			Da		-
lan	nmer F	Fall (in	.)	30	30	-	Hoist/Hammer: Winch PID Make & Model:	Doughnut Hammer											
2	Sampler Blows per 6 in.	ġ;		£	हि	VISU	AL-MANUAL IDENTIFICATIO	ON AND DESCRIPTION		Gra	avel		San			F	ield	Те	X
Depth (ft)	er Blo 6 in.	le N C. (ir	hple (fi	epth Britum	Sym		/consistency, color, GROUP			rse		lse	Ium		s	cV	ness	<u>}</u>	•
)ep	per	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Denaity	structure, odor, moisture, op GEOLOGIC INTERPF	ional descriptions		% Coarse	Fine	Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -				ă.	<sup>3</sup>			,		%	%	%	%	%	%	D	μ	â	
-	2 10	S1 5	0.0 2.0	0.2	sw	Medium dense.	-TOPSOIL- light brown, well-graded SA		s 0.25	5	5	30	40	20				-	
	13 14						e, no odor, moist												
	11 14 26 29	S2 16	2.0 4.0	2.0			een, silty SAND with gravel of dor, moist, reworked till -FILL-	(SM), mps 1 3/8 in., no		5	5	25	25	25	15				-
	29			-		NOTE: Augere	ed through cobble from $4.0 - 4$	l.7 ft.											
5 -	1 1 1 3	S3 20	5.0 7.0				y-green, silty SAND with gra dor, moist, reworked till -FILL-	wel (SM), mps 1 3/8 in., ;	10	5	5	25	25	25	15				
	2 2 4 3	S4 19	7.0 9.0				een, silty SAND with gravel ( dor, moist, reworked till -FILL-	SM), mps 1 3/8 in., no		5	5	25	25	25	15				
10-	3 1 1 1	\$5 13	9.0 11.0	9.5			gray, ORGANIC SILT (OL/ 4.0 mm, no structure, no od -HARBOR BOTTOM	or, wet	shell					5	95				-
	6 13 4	S6 19	12.0 14.0	-			dark gray, ORGANIC SILT , mps 4.0 mm, no structure, 1		s and					5	95				
	6 2 3	S7 24	14.0 16.0	13.8			live-gray, silty lean CLAY (( mps 0.25 in., no structure, n	o odor, moist	al		5				95	N	L	L	
5-	4 7 WOR	<u>S8</u>	16.0	4	CL	Soft, grav. lear	-GLACIOMARINE I								100	N	L	L	
	WOH WOH WOH	24	18.0				) ft), Su = 460/70 psf -GLACIOMARINE I												
20 1	1	W	ater I	evel Data	<u>   </u> a		Sample ID	Well Diagram				L	nma						-
	ato			psed	Depth		O - Open End Rod	Riser Pipe	Overl	our					50.5	 ;			-
	ate	Time		hr Bo		Hole Water	T - Thin Wall Tube	Screen	Rock			•		•	0.5				
8/7	/08					50.5 9.0	U - Undisturbed Sample S - Split Spoon Sample	Cuttings	Samp			•		, 2U					-
								Grout Concrete Bentonite Seal	Bori						HA	08	-8		
ield	Tests					apid S - Slow Low M - Mediur		city: N - Noriplastic L - Lo trength: N - None L - Low							Ven	Hio			Î

F	HAL LD	EY& RIC	ж Н			TEST BORING REPORT	F	ile	No.	No 3	561	1-00	<b>HA</b>	08-	8
				um ge th (ft)	ymbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	Gra	avel		San		of	F		Tes
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
20 -	P U S H	U1 18	20.0 22.0												
						FV2 (22.3-23.0 ft), Su = $610/50$ psf									
25 -	WOR WOH WOH WOH	S9 24	25.0 27.0		CL	Very soft, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, wet -GLACIOMARINE DEPOSIT-						100			
30 -	WOR WOR 1 WOH	\$10 24	30.0 32.0		CL	Soft, gray, lean CLAY (CL), mps 2.0 mm FV3 (30.3-31.0 ft), Su = 380/120 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
35 -	WOR WOR WOR	S11 24	35.0 37.0		CL	Medium stiff, gray, lean CLAY (CL), mps 2.0 mm FV4 (35.3-36.0 ft), Su = 780/150 psf -GLACIOMARINE DEPOSIT-						100	N	L	L
40 -						FV5 (39.3-40.0 ft), Su = 1,030/80 psf									
	P U S H	U2 24	41.0 43.0												
45 -	2 6 6 7	S12 18	43.0 45.0	43.0	-SP	Medium dense, gray, poorly-graded SAND (SP), trace gravel, mps 0.5 in., no structure, no odor, wet -GLACIOMARINE DEPOSIT-	5		20	30	45				
				48.6		Note: Casing refusal on probable bedrock at 48.6 ft.									
						-WEATHERED BEDROCK-									

H&A-TEST BORING-07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT G-\PPO-LECTS356111/FIELD PROGRAM35611-000-TB-GPJ 10.5ep 08

HALEY& ALDRICH	TEST BORING REPORT	-   I	Fil	le l	NO. et N		350	611	l-00 of	HA 0 3	.08-	8	
(ii) (in.) (in.) (in.) (ii) (ii)	E BE VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION		Т	vel		Sar	nd				ield S		Т
Sampler Blows per 6 in. Sample No. & Rec. (in.) Sample Deoth (ft)	(t)       Ion and the second sec	% Coarse	~ ~~~	% Fine	% Coarse	% Medium		% Fine	% Fines	Dilatancy	Toughness	Plasticity	•
	<ul> <li>Substantiation of the second state of</li></ul>	al for											

Client         Maine Medical Center         Sheet No.	H A Proj		EY& RIC			 ed Way		BORING REPOR	<b>२</b> Т			ori le N		<b>N</b> c 3:	<b>5</b> 61		<b>H</b> A	.08	-9	
Type         NW         S         -         Rig Make & Model: Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mobile Drill B-50 Bombardier Bit Type: Roller Bit Diff Matt. Mohae Bit Type: Roller Bit Diff Bit Bit Type: Roller Bit Diff Bit Bit Type: Roller Bit Diff Bit Bit Type: Roller Bit Bit Type: Roller Bit Bit Diff Bit Bit Diff Bit Bit Stat Bit Stat Bit Stat Bit Diff Bit Bit Bit Bit Stat Bit Stat Bit Stat Bit Stat Bit Diff Bit Bit Bit Bit Stat Bit Diff Bit B	Clie	nt	Main	aine T	dical Cer est Borir	nter ngs, Ind		T	t and Dracedures		St Fi	art nish	ı	2. 2.	4 Ju 4 Ju	ily 2 ily 2	2008			
Base of Note:         Construction	Insid Ham	le Dia Imer V	Neight	(in.) (lb)	NW 3.0 300	S 1 3/ 14(	 /8 0 -	Rig Make & Model: Mot Bit Type: Roller Bit Drill Mud: None Casing: NW drive to 16	oile Drill B-50 Bombard	ier	Ha El Da	&A   eva	Rep tior	0. O 1 1 Por	). L: 1 + rtlar	awl /- nd C	or City	Dat	tun	<u>-</u>
0       2       S1       0.0       0       2       1       0       1       1       5       15	- I			· .							Gra	avel	<u> </u>	Sano	d ]		Fi	eld	Te	s
0       2       S1       0.0       0       2       1       0       1       1       5       15	Depth (ft)	Sampler Blo per 6 in.	Sample No & Rec. (in	Sample Depth (ft)	Stratum Change Elev/Depth (	USCS Symb	_	y/consistency, color, GROUP N structure, odor, moisture, opti	NAME, max. particle size	<b>,</b>	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	_	8	Plasticity	Ī
4       32       2.0       4.0       3.0       Note: Sample composed of charer and six from 2.0 to 3.0 ft.         5       -       3.0       SM       Medium dense, gray, silty SAND (SM), trace gravel, mps 0.25 in., no       5       5       30<	0 -	2 3 5						anic odor, wet	I (GM), mps 0.5 in., no		15	45	10	10	5	15				
5       -       3       22       6.0       -       -       FILL-       -<		6 9					Medium dense	e, gray, silty SAND (SM), trace			 	5	30	30	20	15	⊢ + ⊢ +	- +		
2       16       8.0       odor, moist       Note: Groundwater encountered at 7.1 ft.         WOH       S5       8.0       10       10.0       Image: Site of Site S	5 -	3 3				SM	Loose, gray, s		, no structure, no odor, r	noist			10	30	30	30				
$\frac{3}{61}  10  10.0 $		2 3				SM	odor, moist		nps 0.25 in., no structure	, <b>n</b> o	5	5	15	30	15	30				
$\frac{4}{5}$ $\frac{5}{8}$ $\frac{12.0}{2}$ $\frac{2}{14.0}$ $\frac{12.0}{4}$ $\frac{2}{5}$ $\frac{2}{14.0}$ $\frac{12.0}{4}$ $\frac{14.0}{5}$ $\frac{16.0}{5}$		3 6				SM		· · · · ·	nps 0.25 in., no structure	e, <b>n</b> o	5	5	15	30	15	30		i.		
2       S7       12.0 4       ML       Medulum stur, dark gray, SLI (ML), trace wood, mps 2.0 mm, no structure, 4       S       S       95         5       S8       14.0 4       14.0       14.0       CL       Stiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist -GLACIOMARINE DEPOSIT-       100         15-       6       16.0       16.0       16.0       16.0       BOTTOM OF EXPLORATION         Note:       1       100       Note:       100       0       0         12-       16.0       16.0       100       0       BOTTOM OF EXPLORATION       100         10-       100       100       0       0       0       0       0       0         12-       100       100       100       100       100       100       100         15-       16.0       100       0       0       0       0       0       0         12-       100       0       0       0       0       0       0       0         15-       100       0       0       0       0       0       0       0       0       0         16-0       0       0       0       0       0       0	10-	5 3				SM			nps 0.25 in., no structure	, <b>n</b> o	5	5	20	30	25	15				
5       S8       14.0       CL       Shiff, gray, lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist -GLACIOMARINE DEPOSIT-       100       100         15       6       5       16.0       16.0       BOTTOM OF EXPLORATION       100       100         16.0       16.0       16.0       16.0       Note:       1.       WOH = Weight of Hammer.       100       100         Vater Level Data         Open End Rod         Time       Elapsed       Depth (ft) to:       O - Open End Rod       Fliser Pipe       Overburden (ft)       16.0         7/24/08       1315       0.25       14.0       16.0       3.7       Overbig Spon Sample       Sample Structure, no odor, moist       Overburden (ft)       0.0         Value Colspan="4">Value Colspan= 400		3 4			- 12.0	ML		wet		ructure,					5	95				
BOTTOM OF EXPLORATION         BOTTOM OF EXPLORATION         Note:       Note:         1. WOH = Weight of Hammer.         Value       Depth (ft) to:       Sample ID       Well Diagram       Summary         Date       Time       Elapsed       Depth (ft) to:       O - Open End Rod       Filter Sand       Overburden (ft)       16.0         7/24/08       1315       0.25       14.0       16.0       3.7       Solid State       Solid State       Output filter Sand       Overburden (ft)       16.0         Time       Isolid State       Isolid State       Solid State       Solid State       Solid State       Overburden (ft)       16.0         Time       Isolid State       Isolid State       Solid State       Solid State       Solid State       Solid State         Time       Isolid State       Isolid State       Solid State       Solid State       Solid State         7/24/08       1315       0.25       14.0       16.0       3.7       Solid State       Solid State       Solid State	15 -	4 6			- 14.0	CL	Stiff, gray, lea			ist						100	-		_	
Date     Time     Elapsed Time (hr.)     Depth (ft) to: of Casing     O - Open End Rod Hole     O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample     Riser Pipe Screen     Overburden (ft)     16.0       7/24/08     1315     0.25     14.0     16.0     3.7     0 - Open End Rod T - Thin Wall Tube S - Split Spoon Sample     Image: Comparison of the comparison of the	-				- 16.0				DRATION											
Date     Time     Elapsed Time (hr.)     Depth (ft) to: of Casing     O - Open End Rod Hole     O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample S - Split Spoon Sample     Riser Pipe Screen     Overburden (ft)     16.0       7/24/08     1315     0.25     14.0     16.0     3.7     0 - Open End Rod T - Thin Wall Tube S - Split Spoon Sample     Image: Comparison of the comparison of the	L		Wa	ater Le	evel Data	1l a		Sample ID	Well Diagram				L Sum	Ima	rv					
				Time	e (hr.) Bo	ttom E asing c	Bottom Water	O - Open End Rod T - Thin Wall Tube U - Undisturbed Sample	Riser Pipe Screen Filter Sand	Rock	Сс	den ored	(ft	) :)	1 S	0				
Field Tests: Dilatancy: R - Rapid S - Slow N - None Plasticity: N - Nonplastic L - Low M - Medium H - High					0.1-1-1				Concrete					L8-1		HA	.08-	9		

10 Sep 08 H&A-TEST BORING-07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT G/PROJECTS35611/FIELD PROGRAM35611-000 TB.GPJ

Pro Clie	ject	Main	e Hea e Mec	lth/Unite lical Cer est Borir	iter	v Dev	elopment	BORING REPOI		SI	le N heel tart nish	t No	o. 1 7	561 of Au Au	3 gusi	t 20			
				Casing	Sam	oler	Barrel	Drilling Equipmen	t and Procedures		riller			И. Р			00		
Тур	e			HW	S			Rig Make & Model: Mot	oile Drill B-50 Bombardier	H	&A	Rep	). O	). L	awl	ог			
Insid	de Dia	neter	(in.)	4.0	13/	8		Bit Type: Roller Bit Drill Mud: Bentonite						+/			_		
Han	nmer V	Veight	(lb)	300	14(		-	Casing: HW drive to 49						rtlar ee I		_	Da	tur	n
Han	nmer F	all (in	)	30	30		-	Hoist/Hammer: Winch PID Make & Model:	Doughnut Hammer				0						
•	ws	с,		£	<u></u>		Viei	AL-MANUAL IDENTIFICATIO		Gr	avel		Sano	d		F	ield	Те	- s
н ( <del>II</del> )	ы В	e No.	h (#)	nge bth	Symbol					ŝ		se	E		ő	S	less	≥	]
Depth (ft)	Sampler Blows per 6 in.	Sample I & Rec. (i	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	uscs s			/consistency, color, GROUP N structure, odor, moisture, opt	onal descriptions	% Coarse	% Fine	Coarse	% Medium	% Fine	Fines	Dilatancy	Toughness	Plasticity	
	San	∾S		ů –	Ŝ			GEOLOGIC INTERPR	ETATION)	%	%	%			%	ä	ē	Б	
0 -	5 8	S1 20	0.0		ML			olive-gray, sandy SILT (ML)	, trace gravel and brick, mps		5	10	15	20	50		$\square$		Ī
	17	20	2.0			5.25	, oonde	-FILL-											
	21			2.0		-\ <i>-</i>					Ļ.	Ļ.				⊢⊣			
	17 15	S2 23	2.0 4.0		SM		ium dense, ture, no oc	, olive-gray, silty SAND (SM) lor, moist	, trace gravel, mps 0.25 in., i	0	5	15	30	30	20				
	14 12							-FILL-											
		S3	4.0	-	SM	Loos	e olive-or	ay, silty SAND (SM), trace g	ravel mps 0.25 in no		5	15	30	30	20				
_	2 2	S3 19	4.0 6.0		5171		ture, no oc	lor, wet	iavel, mps 0.20 m., 10			<b>1</b>	50	50	20				
5 -	3							-FILL-											
	3	S4	6.0	-	SM	Med	ium dense.	olive-gray, silty SAND (SM)	, trace gravel, mps 0.25 in., 1		5	15	30	30	20				
	5	12	8.0				ture, no oc		, <b>6</b> ,, .										
	8 15	1																	
	8	S5	8.0	8.0	OL/	~		in spoon tip with creosote-like dark gray to black, sandy OF				10	10	10	70		$\vdash$		┥
	6 6	7	10.0		ОН		and metal			, 									
10-	3																	_	
	1 2	S6 24	10.0 12.0		OL/OH	Soft,	dark gray	to black, sandy ORGANIC S -HARBOR BOTTOM							100	Ν	L	L	
	22			11.3							-		$\vdash$	$\square$			$\vdash$		4
		67	12.0	-	CL	Medi	ium stiff .	gray, silty lean CLAY (CL), ti	ace sand mns 4.0 mm no			1		5	95	N	L	L	
	23	S7 15	12.0 14.0				ture, no oc	lor, moist	•							1	1	L	
	3 4			80				-GLACIOMARINE I	DEPOSIT-										
				-															
15 -																			
15																			
	WOR	S8	19.0	1	CL	Medi	ium stiff, g	gray, lean CLAY (CL), mps 2	.0 mm, no structure, no odor.						100	N	L	L	
20	WOR	24	21.0			wet											$\Box$		
		Wa		evel Data		(#1)		Sample ID	Well Diagram		5	Sum	nma	Iry				_	_
D	ate	Time	Elap			Bottom	Water	O - Open End Rod T - Thin Wall Tube	LEL Screen	verbu		•	·	4	49.5	í			
				\fof C	asing (	of Hole	vvaler	U - Undisturbed Sample	6.10	ock Co			-	17	0				
								S - Split Spoon Sample	Grout	ample			123,	, 1U F	J HA	08-	.10		-
									Bentonite Seal	oring					.1.4	-00	10		
Field	i Tests:			Dilatanc	y: R - F	Rapid	S - Slow	N - None Plastle	sity: N - Nonplastic L - Low	M - Med	ium	Η-	High	n					

H A	HAL LD	EY& RIC	Ĥ			TEST BORING REPORT	F	File			3561	1-00		0 <b>8-</b> 1	10
				Ê	ō		-	ave	-	IO. San		of	r	ield	Tes
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
20-	WOH					FV1 (19.3-20.0 ft), Su = 520/110 psf	+	+	F	F	F	Ē	F	-	
	WOH					-GLACIOMARINE DEPOSIT-									
						FV2 (23.3-24.0 ft), Su = $730/130$ psf									
25 -	P U S	U1 22	25.0 27.0			Note: Wood fibers observed in wash water from 24.5 to 25.0 ft.									
	н				-	FV3 (27.3-28.0 ft), Su = $400/90$ psf									
30 -	WOR WOR WOR WOR	\$9 24	30.0 32.0		CL	Very soft, gray, lean CLAY (CL), mps 2.0 mm, occasional fine sand partings, no odor, wet FV4 (30.0-31.0 ft), Su = 220/70 psf -GLACIOMARINE DEPOSIT-					5	95	N	L	L
35 -	WOR WOR 3 2	\$10 24	35.0 37.0	35.2	CL_ SM	Very soft, gray, lean CLAY (CL), mps 2.0 mm, occasional fine sand partings, no odor, wet Loose, gray, silty SAND (SM), mps 4.0 mm, no structure, no odor, wet -GLACIOMARINE DEPOSIT-	, 		5	10	5 70	95 15	N	L	L
40 -	5 2 7 7	S11 6	40.5 42.5		SW- SM	Loose, gray, well graded SAND with silt (SW-SM), mps 0.25 in., no structure, no odor, wet -GLACIOMARINE DEPOSIT-	5	5	25	25	30	10			
45 -	9 9 5 6	S12 6	45.5 47.5	45.5	SP- SM	Medium dense, gray, poorly graded SAND with silt (SP-SM), mps 0.25 in., no structure, no odor, wet, schist fragment in tip of spoon -GLACIAL TILL-	5	5	5	25	50	10			
	U			47.5	BR	-WEATHERED BEDROCK-									
				49.5											
	NOTE:	Soll id	entiflcat	tion base	d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, inc.	8	ori	ng	No	-	]	HA	08-1	10

	H A	[AL LD	EY& RIC	Ĥ			TEST BORING REPORT	F	<b>Bor</b> i File I	No.	3	561	I 1-00 of	<b>IA0</b>	8-1	)
F		ws	<u></u>		£	ō		-	avel	*	o. Sano				eld -	est
	Depth (ft)	r Blov 6 in.	le No . (in.	h (ff)	ttum epth (	Symb	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*,		1	ø			ŝ		ŝ	
	Dept	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity Strength
Γ	T						Note: Roller cone refusal.		<u> </u>	<b>—</b>						
							BOTTOM OF EXPLORATION Notes: 1. FV1 (19.3-20.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details. 2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.								8-14	
L	h	IOTE:	Soii id	entificat	ion based	d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	B	ori	ng	NO.				5-10	

H&ATEST BORING-07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT G:/PROJECTS/35611/FIELD PROGRAM/35611-000 TB.GPJ 10 Sep 08

H A		EY8 RICI	Ť				TEST	BORING REPO	RT			orii					HA 	08-	-1]	1
Pro Clie Cor	nt		e Me	dical C	Center	•	velopment	, Portland, Maine			Sh Sta	e N leet art nish	No	). 1 2		3 Ily 2	00 2008 2008			
				Casin	g S	ampler	Barrel	Drilling Equipmen	t and Procedures		Dr	iller		Ν	1. P	orte	er	-		
Тур	e			NW		S		Rig Make & Model: Mol Bit Type: Roller Bit	bile Drill B-50 Bombardi	er			<u> </u>		). L		or			-
Insid	le Dia	meter	(in.)	3.0		1 3/8		Drill Mud: None				evati			1 + rtlar	•	City	Da	tur	Π
Ham	nmer \	Veight	(lb)	300		140	-	Casing: NW drive to 55 Hoist/Hammer: Winch				cati			ee F					
Han		Fall (in	.)	30		30	-	PID Make & Model:	Douginiut Hammer											
<b>(</b>	lows	ю́.	e€		€ .	ioningo	VISU	IAL-MANUAL IDENTIFICATIO	IN AND DESCRIPTION		-	vel		San	d		Fi	ield ဖျ	_	
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample	Stratum Change	Elev/Dept		(Density	//consistency, color, GROUP I structure, odor, moisture, opt GEOLOGIC INTERPR	ional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
0 -	3	S1	0.0			M Me		, brown, silty SAND with grav			5		_	· · · · ·	20		-	-		
	10 13 10	22	2.0				ermixed with or, moist	h 10% brick, cinders, and plas	stics fragments, no structur	re, no										
	16 34 29 29	S2 24	2.0 4.0		s			-FILL- eosote colored, silty SAND w h 30% wood, brick, and cinde			5				20					
5 -	12 20 18 13	S3 24	4.0 6.0	4	· · · · ·	W \inte	ermixed with	eosote colored, silty SAND w h 30% wood, brick, and cinde own, well-graded, SAND (SW	rs, no structure, no odor,	moist j	5_	5	25 25	30 30	20 45	15				
	7 7 6 7	S4 16	6.0 8.0		s		dium dense, acture, no oc	, gray-brown, well-graded SA dor, wet	ND (SW), mps 0.25 in., r	ю			30	35	35					
	7 11 18 11	\$5 18	<b>8</b> .0 10.0		s		dium dense, odor, wet	, gray, well-graded SAND (SV -FILL-	W), mps 0.25 in., no struc	ture,			35	30	30					
10-	2 4 6 2	S6 13	10.0 12.0		s			rell-graded SAND (SW), mps rs reworked, no structure, no o		ockets,			30	30	30	10				
				-	_	No	te: Organic	s observed in wash water from	n 12.0 to 12.5 ft.											
	2 3 3	S7 24	12.5 14.5		.5 <u>S</u>		ose, gray, si acture, no oc	lty SAND (SM), mps 0.25 in. dor, wet -HARBOR BOTTOM	-	>			10	10	55	25				
	4			14.	.2 0			gray, silty lean CLAY (CL), n	nps 4.0 mm, no structure,	no				$\vdash$		100		$\neg$		
15-	1 2 2 2	S8 24	15.0 17.0		C	L Sof		occasional brown mottles a CLAY (CL), mps 4.0 mm, f , moist -GLACIOMARINE I		e sand										
				-																
20		l	ater L	evel D	ata	1		Sample ID	Well Diagram	l		 	L Sum	nma	I IV					
Da	ate	Time	Ela	psed			m Water	O - Open End Rod T - Thin Wall Tube	Riser Pipe Screen Filter Sand	Overb Rock		den	(ft	)		55.0 0	)			
								U - Undisturbed Sample S - Split Spoon Sample	Grout Concrete Bentonite Seal	Samp <b>Bori</b> r			<b>)</b> .	12		IA	08-	11		
Field	Tests	:	- <b>-</b>	Dilata	ancy: hness	R - Rapic	S - Slow	N - None Piasti	city: N - Nonplastic L - Lo	w M-M	edi	um	н.	Higt	 ו			h		

H A		EY& RIC	Ĥ			TEST BORING REPORT	F	ile	<b>ing</b> No. et N	3	561	[ 1-00 of	HA 00 3	0 <b>8-</b> :	.1
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION (Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	A Fine	9g	% Medium B		% Fines		Toughness	Plasticity a
- 25 -	WOR WOH WOH WOH	\$9 24	25.0 27.0		CL	Medium stiff, gray, silty lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist FV1 (25.3-26.0 ft), Su = 720/170 psf -GLACIOMARINE DEPOSIT-						100	N	L	N
30 -															
- 35 -	2 3 2 2	S10 19	35.0 37.0	34.0	SP- SM	Note: Drill action indicates probable gravel from 34.0 to 35.0 ft. Fine gravel observed in wash water. Loose, gray, poorly-graded SAND with silt (SP-SM), trace gravel, mps 0.25 in., no structure, no odor, wet -GLACIOMARINE DEPOSIT-		5		5	80	10	-		
40 -	8 11 10 19	\$11 4	40.0 42.0		SP- SM	Medium dense, gray, poorly-graded SAND with silt (SP-SM), trace gravel, mps 1-3/8 in., no structure, no odor, wet -GLACIOMARINE DEPOSIT-	5			5	80	10			
45 -															
	NOTE	Soil id	lentifica	tion base	d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	В	ori	ng	No			HA	08-	

			EY& RIC	Ť			TEST BORING REPORT	F	ile l	No.	3	561	1-00 of		8-1	1
		SM	0 个	_	Ê	R	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	-	avel		San			Fi		<b>Fest</b>
	Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity Strength
- :	50 -	10 12 19	\$12 9	50.0 52.0		SM	Dense, gray, silty SAND (SM), trace gravel, mps 0.5 in., bonded, no odor, wet		5	10	10	60	15			
		13					GLACIAL TILL-									
ſ	ľ				52.5		Note: Drill action indicates probable bedrock at 52.5 ft.									
							-WEATHERED BEDROCK-									
										1						
+	55 -				55.0		Note: Casing refusal at 53.4 ft. Roller bit refusal at 55 ft.						$\vdash$	+	+	+
							BOTTOM OF EXPLORATION									
							Notes: 1. FV1 (25.3-26.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for									
							<ul><li>details.</li><li>2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.</li></ul>									
6																
										1						
									1							
_		NOTE:	Soil id	entificat	tion base	d on vi	sual-manual methods of the USCS as practiced by Haley & Aldrich, Inc.	В	ori	ng	No	•	1	HAO	8-1	1

H&ATEST BORING-07-1 HA-LIB07-1R-POR-06-03-08.GLB HA-TB+CORE+WELL-07-1.GDT G./PROJECTS/35611/FIELD PROGRAM35611-000 TB.GPJ 10 Sep 08

Clie	Antractor       Maine Test Borings, Inc.         Casing       Sampler       Barrel       Drilling Equ Bit Type: Roller 1 Drill Mud: None Casing: NW driv Hoist/Hammer: W PID Make & Model Bit Type: Roller 1 Drill Mud: None Casing: NW driv Hoist/Hammer: W PID Make & Model Bit Good Casing: NW driv Hoist/Hammer: W PID Make & Model Bit Good Casing: NW driv Hoist/Hammer: W PID Make & Model Bit Good Casing: NW driv Hoist/Hammer: W PID Make & Model Casing: NW driv Hoist/Hammer: W PID Make & Model Bit Good Casing: NW driv Hoist/Hammer: W PID Make & Model Casing: NW driv Hoist/Hammer: N PiD Make & Model Casing: NW driv Hammer: N PiD Make & Model Hammer: N PiD Make & Model Casing driv Hammer: N Hamm	, Portland, Maine			Sř St	e N neet art nish	No	). 1 2	561 of 4 Jι 4 Jι	1 ily 2	2008			-						
Type       NW       S		nt and Procedures		Dr	iller		N	<b>1</b> . P	orte	er										
Insic Harr	de Dia Imer V Inmer F	Veight	(lb)	3.0 300 30	1	3/8 40 30	  -	Bit Type: Roller Bit Drill Mud: None Casing: NW drive to 10 Hoist/Hammer: Winch	6.0 ft.	dier	El Da	eva atun	tior n ion	1 Po S	). L 1 + rtlai see I	·/- nd C	City	Dat	:um	<u>_</u>
Depth (ft)	Sampler Blows per 6 in.	mer Fall (in.)     30     30     -     Hoist/Hammer PID Make & M       80     :		sity/consistency, color, GROL structure, odor, moisture,	IP NAME, max. particle optional descriptions		% Coarse	% Fine	% Coarse	% Medium Sa		% Fines		Toughness	<u> </u>	Г				
0 -	Inter Fail (III.)         30         30         30         -         PID Make & Mo           So         So         So         -         PID Make & Mo         Multiple         Multipl		o structure, no odor, moist		ers, mps	5	5	10	25	35	20									
	e         NW         S					l with	5	5	5	25	40	20								
5 -	6 10				5.0		15% cind Note: Gr	lers, mps 0.5 in., no structure roundwater encountered at 5.4	, no odor, moist ft.	/	5	5		20 40	20 30	30 				
	7 11 12					sw	no structu Medium (	ure, no odor, moist dense, light brown, well-grad	ed SAND (SW), with oc	casional			30	40	30					
	Immer Fall (in.)       30       30       30		no			35	35	30												
10-		•				35	35	30												
Hammer Weight (b)         300         140         -         Casing: NW drive to 16.0 ft. Horisoft Jammer: Winch Doughuut Hammer           Ware Fall (n.)         30         30         -         Casing: NW drive to 16.0 ft. Horisoft Jammer: Winch Doughuut Hammer           Ware Fall (n.)         30         30         -         Fall (n.)         -         Horisoft Jammer: Winch Doughuut Hammer           Ware Fall (n.)         30         -         -         Horisoft Jammer: Winch Doughuut Hammer         -           Ware Fall (n.)         30         -<				5	5	90														
15-	3 3					CL		t fibers, mps 2.0 mm, no strue	cture, no odor, moist	? (CL),						100				
					10.0			bservation well installed in con		Vell										
		 w:	ater	evel C	ata		·	Sample ID	Well Diagram		L		Sum	Ima		1				-
Da	ate		Ela	osed	Dep Bottom	Botton	Water	O - Open End Rod	Riser Pipe			den	(ft	:)	_	16.0 0	)			•
7/24	4/08		0.						Cuttings Grout Concrete	Samp Bori	oles	6		7	S HA	_	12(	OV	<b>V</b> )	-

	_								BORING REPO	ORT				ori						08	•13
Clie	ent	Main	e Me	edical (	Cent	ter		elopment	t, Portland, Maine				Sł St	neet art	No	). 1 2	of 9 Ju	3 ily 2	2008		
				Casir	ng	Samp	oler	Barrel	Drilling Equipm	ent and F	rocedures									,	
Тур	е			NW	,	S		NQ	Rig Make & Model: M	lobile Dril	I B-50 Bombard	ier			· ·				or		
Insid	de Dia	meter	(in.)	3.0		1 3/	8	2.0	Drill Mud: None							-			<sup>¬</sup> itv	Da	tun
Ham	nmer \	Neight	(lb)	300		140		-					L			_		_	_	24	
Han		Fall (in	.)	30		30		•	PID Make & Model:	i Dougin											
ft)		ю́ч	ωź	2 .	Ê	lodn		VISL	JAL-MANUAL IDENTIFICAT		DESCRIPTION			-		_	d I		F	eld ø	Te
oth (i	er Bl	ble 1 c. (j			ept	Syn		(Density	y/consistency, color, GROU	P NAME, n	nax. particle size*	,	arse	0	arse	diur	9	es	лcУ	nes	<u>cit</u>
Dep	ample	sam Re	Sa	g   8 C		scs			structure, odor, moisture, o GEOLOGIC INTER	ptional de: PRETATIO	scriptions N)		ပိ	6 Fin	Š	6 Me	6 Fin	6 Fin	oilata	ough	lasti
0 -			0.0		<u> </u>		Med	ium dense	, dark brown, poorly-grade	I SAND w	ith silt (SP-SM).	mps	<u>ہ</u>	<u>^</u>	_						<u> </u>
	7	20				SM			ixed with 10% cinders												
	11 11								-FILL-												
	14	\$2	2.0	<del>,</del>		SP						kets,			30	40	20	10			
Casing         Sampler         Partel         Drilling Equipment and Procedures         Driller         M. Porter           Type         NW         S         NQ         Pilg Mate & Model:         Mobile Drill B-50 Bombardier         HAA Rep. 0. Law/or           Inside Diameter         (n)         3.0         1.378         2.0         Drill MAC         Note         Elevation 9 + /.           Hammer Weight         (b)         3.0         1.40         -         Casing:         NW drive 0.46.5 ft.         Houts/Hammer           Hammer Fail         (n)         3.0         3.0         -         PID Make & Model:         Douglawin Hammer           Hammer Fail         (n)         3.0         -         PID Make & Model:         Note Casing:         Structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descriptions izare, structure, con moistare, coloral descructure, con moistare, con odor																					
		PALE/NUCL T         File No.         S5611-000           Cleant Maine Medical Center         Start Test Borings, Inc.         File No.         S5611-000           Contractor Maine Test Borings, Inc.         Casing Sampler Barre         Drilling Equipment and Procedures         File No.         S5611-000           Ype         NW         S         NQ         Fig Make & Model:         Mohie Conter         H&A Rep. 0.         Lawlor           Ype         NW         S         NQ         Fig Make & Model:         Mohe Conter         H&A Rep. 0.         Lawlor           Start Test Borings, Inc.         Set Test Borings, Inc.         Fig Make & Model:         H&A Rep. 0.         Lawlor           Mainer Weight (Ib)         300         140         -         Casing: NW rive to 46.6.f.         Hold Harmer:         Head Rep. 0.         Lawlor           Et Make & Model:         Coestign Set Marmer 2010         Generative code: notemative code notescription         Coestign Set Marmer 2010         <																			
5 -																					
	1	Casimo         Sample         Barrel         Drilling Equipment and Procedures         Finish         P2 public A Model:         Make A Mode																			
	3		0.0						Brass 1188												
				_		GD	Var	10010	av brown poorly graded C	DAVEL /	SD) mars 1 0 in	trace	20	40	10	10	4	4			
	3					51			d, no structure, no odor, we	t .	<i>,</i> mps 1.0 m.,	all	0	1	<b>1</b>						
									-FILL-												
10-	1	<b>S</b> 6	10.0	10	).0	ML				0.25 in., tr	ace wood and gla	<u>ss,</u>	+-	+-	5	io	15	70	┝┥	- +	
	1	15	S5       8.0       0.0       GP       Very loose, gray, brown, poorly-graded GRAVEL (GP), mps 1.0 in., trace       30       40       10       10       5       5       10       10       5       5       10       15       5       10       10       5       5       10       15       5       10       10       10       5       5       10       15       5       10       15       70       12.5       10       15       70       12.5       10       15       70       12.5       10       15       70       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       12.5       100       N       M<																		
	1       S4       6.0       6.0       10 <t< td=""></t<>																				
10       1       S6       10.0       10.0       ML       Very loose, gray, sandy SILT (ML), mps 0.25 in., trace wood and glass, shells, no structure, no odor, wet shells, no structure, no odor, wet shells, no structure, no odor, most																					
				5		CL				s 2.0 mm,	no structure, no c	dor,						100	N	M	М
	3	-								DEPOSI	r_										
	4			_					-OLACIOWIARINI	ונטיזשע ו	•										
15 -																					
																- 02					
20 -		Wa	ater L	_evel C	Data				Sample ID	W	/ell Diagram		<u> </u>		Sum	1ma	ry				_
D	ate		Ela	apsed				J	O - Open End Rod		Riser Pipe	Over	bur					16.6	;		-
			Tim	ie (hr.)							Filter Sand				•	•					
										<u> </u>		Sam	ples	\$	1	10 <b>S</b> ,					
											Concrete	Bori	ng	No	<b>D.</b>		ł	IA	08-	13	
Field	Tests	:	<u> </u>						N - None Pla	sticity: N	Nonplastic L - Le	ow M-N	/ledi	um	Н-	Higt	1				
				Touc		ss: L -	Low	M - Mediu	m Liah Day	Stranath	N None L I ou	/ M. Me	diur	n H	1 - H	iah	V - '	Verv	' Hia	h	

H A		EY& RIC	Ĥ			TEST BORING REPORT	F	ile		3	3561	[ 1-00 of		<b>08-</b> :	13	
ŧ	lows	No. Un	e Ĵ	E @ F	lođr	VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION	Gr	avel		San	d			ield	_	es T
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change Elev/Depth (ft)	USCS Symbol	(Density/consistency, color, GROUP NAME, max. particle size*, structure, odor, moisture, optional descriptions GEOLOGIC INTERPRETATION)	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	for a second sec
20-	WOR WOR WOH WOH	\$8 24	20.0 22.0		CL	Medium stiff, silty lean CLAY (CL), mps 2.0 mm, no structure, no odor, moist FV1 (20.3-21.0 ft), Su = ~670/170 psf -GLACIOMARINE DEPOSIT-						100	N	L	L	
- 25 -						Note: Trace fine gravel observed in wash water. FV2 (25.3-26.0 ft), Su = 590/240 psf										
	WOR WOR WOR WOH	S9 24	30.0 32.0		CL	Soft, gray, silty lean CLAY (CL), mps 2.0 mm, occasional partings along sand seams, no odor, moist FV3 (30.3-31.0 ft), Su = 280/250 psf					5	95	N	L	L	
						-GLACIOMARINE DEPOSIT-										
35 -						FV4 (35.3-36.0 ft), Su = 720/220 psf										
				39.6		Note: Sand observed in wash water and on drill rods.										
40-	4 2 2 4	\$10 4	40.0 42.0		SP	Very loose, gray, poorly-graded SAND (SP), mps 4.0 mm, no structure, no odor, wet -GLACIOMARINE DEPOSIT-				45	50	5				
45 -																
				46.6		Note: Casing refusal at 46.6 ft. Advanced roller bit to 46.6 ft. Begin NQ rock core at 46.6 ft. See Core Boring Report for details. Notes: 1. FV1 (20.3-21.0 ft) indicates in-situ field vane performed at depth interval shown, corrected peak/residual shear strengths are provided. See Table II for details.										-
1						2. WOR = Weight of Drill Rods; WOH = Weight of Hammer.					1					

ALI	LEY&	Ĥ			CU	KE B	URIN	G REPORT	File No. 35611-000 Sheet No. 3 of 3
Depth (ft)	Drilling Rate (min./ft)	Run No.	Run Depth (ft)	Recove	ery/RQD	Weath- ering	Elev./ Depth (ft)	Visua and	I Description I Remarks
				<u> </u>	/0		<u>    (ii)     </u>	SEE TEST BORING REPO	RT FOR OVERBURDEN DETAILS
	2	C1	46.6	40	76			Moderately hard, moderate to highly weat	thered, dark green, aphanitic CHLORITE
	2 4		51.0	0	0			high angle, very close to undulating, fresh	h angle. Primary joint set is parallel to foliation to discolored with pyrite, very tight to tight
	7								
- 50 -	3						61.0		
	2	C2	51.0 56.0	60 42	100 70		51.0	Foliation is extremely thin, high angle to very close, high angle to vertical, close to very close.	esh, dark green, aphanitic CHLORITE SCHIST vertical. Primary joint set is parallel to foliation smooth to polished, stepped to undulating, fres
	2 2							to discolored with pyrite, very tight to tigh to vertical quartz veins	nt. Occasional extremely thin to thin, high angl
	2								
- 55	2								
							56.0	BOTTOM C	DF EXPLORATION
- 60 —									
- 65 -									
- 70									
- 75 -				•					

2008 Test Pit Logs for Proposed MaineHealth/United Way Development (see Reference 5)

		ALEY& LDRICH			т	EST PIT L	_OG				ר	ſes	t P	it N	lo.	]	Г <b>Р-</b>	<b>20</b> 1	l	
ľ	Proj	ect N	laine He	alth / Un	nited Way I	Development					Fil	e N	о.	_	356	11-0	000			٦
	Loca	ttion S	omerset	& Chestn	ut Streets, I	Portland, Maine					н	ka f	Zon	1	B.	Stei	nert			
	Clier	nt N	laine Me	edical Cer	nter							хлч г	heh							
	Con	tractor I	Environm	ental Pro	jects, Inc.						Da	te		2	20 O	ctob	er 2	800		
	Equi	pment Use	d Ko	matsu PC	2 35 MR						We	eath	er	S	unn	y, 50	)°			
		ind El.: 11 + atum: Portlar			Location:	See Plan		Ground	dwater de	epths/entry	/ rate	s (in	ı./m	in.):	4.	6 ga	l/mi	n		
ľ	£		Stratum			VISUAL-MANUAL			D DESCRIF	TION		Gra	vel				Fie		ests	
	El. Datum: Portland City Datum       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Gravel Sand       Field Tests         El. Datum: Portland City Datum       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Gravel Sand       Field Tests							Strength												
F	0 -	SW-SM Gray-brown, well-graded SAND with silt and grave in., no structure, no odor, dry, bricks, concrete, we railroad ties and steel tracks in north side of test pit -FILL- 2.0 SP Black, poorly graded SAND with silt (SP), mps 4.7 no odor, dry, some coal/ash fragments, trace organ -FILL- 3.5 SP Tan to yellow-brown, poorly graded SAND (SP), n structure, no odor, moist to wet with depth -FILL- 6 -							e, wood th	roughout,	8		15	15 3	15 1					
$\left  \right $	2 -		2.0	<u>-</u>	Black, poo no odor, d	orly graded SANI lry, some coal/as	D with silt (S h fragments,	P), mp trace o	s 4.75 mm organics	i, no structu	ire,			55	03	0 15				-
							-FILL-													
╞	4 -		3.5	SP SP	Tan to yel structure,	low-brown, poor no odor, moist to	ly graded SA wet with de	ND (S) pth	P), mps 4.	75 mm, no				10 E	02	0 10	<b> </b> -			-1
							-FILL-	-												
	6 -																			
	8 -		8.0			-BOTT	OM OF EXC	CAVAI	TION-						+	+	ļ			_
Obstructions: None.     Remarks:     Water observed sceping into test pit excavation at approximately 8 ft below existing ground graphine pavers) rail     Field Tests																				
Ē											Fi	eld T	ests		_		<u>.</u>			=
	wood timbe	ellaneous deb , granite pave rs, tracks pre ghout.	ers), rail			oximately 8 ft belo	ow existing gr	ound	Toughnes Plasticity		L - I Nonpl	Low astic	M L-	- Mec Low	lium M -	H · Medi	High um I	1 H - Hi		
t		Standing W	later in C	ompiete	d Pit	Diamata		<u>uiders</u>								_	ons (			-
		lepth	6.5	ft		Diameter 12 to 24	NA	=				Len			dth			3		
$\mathbf{F}$	me	asured after NO			ours elapse on based on	over 24 visual-manual me		= USCS s		oracticed by		Dep			nc.	8.0	,			$\dashv$

	H A	ALEY&	Ĩ		TE	ST PIT LOG		Te	est	Pi	t N	lo.	T	<b>`P-</b> 2	202	,
	Proj	DRICH         TEST FIT LOG         Test fit Log           et         Maine Health / United Way Development tion         Somerset & Chestmut Streets, Portland, Maine         File No.         35611-000           rate Maine Medical Center         File No.         35611-000         H&A Rep         B. Steinert           rate Maine Medical Center         Date         20 October 2008         Weather         Sumy, 50°           model Light Statum         Location:         Sce Plan         Groundwater depthelenty rates (In/min):         3.7 gal/min           Sample         Statum         USC         VISUA-AMANAL IDENTIFICATION AND DESCREPTION         Groundwater depthelenty rates (In/min):         3.7 gal/min           Sample         Statum         USCS         VISUA-AMANAL IDENTIFICATION AND DESCREPTION         Groundwater depthelenty rates (In/min):         3.7 gal/min           Sample         Statum         USCS         VISUA-AMANAL IDENTIFICATION AND DESCREPTION         Groundwater depthelenty rates (In/min):         3.7 gal/min           Sample         Statum         USCS         Notice Add and antified component component preventige entropies antification of the component component component component preventige entropies antification of the component co														
			Somerset	& Chestn	ut Streets, Por	rtland, Maine		H&/	4 R	lep		<b>B</b> . \$	Steir	nert		
	Clie	nt l	Maine Me	edical Cen	ter						_					
	_			-				Date	e		2	0 00	ctobe	er 20	800	
	Equi	ipment Use	d Ko	Inite Health / United Way Development     File No. 37511-000       Inite Health / United Way Development     merset & Chestuat Streets, Portland, Maine       inite Medical Center     Inite Medical Center       Invironmental Projects, Inc.     Date       20 October 2008     Weather       Stratum     USCS       City Datum     Groundwater depthalentry rates (in/min): 3.7 gal/min       Stratum     USCS       Berly Symbol     (oder.naturit gain size and withole comporting developed estimates, market       Stratum     USCS       Stratum     USCS       Berly Symbol     (oder.naturit gain size and withole comporting developed estimates, market       Stratum     USCS       Stratum     USCS       Stratum     USCS       Stratum     USCS       Stratum     USCS       Berly Symbol     (oder.naturit gain size and withole comporting developed estimates, market       Stratum     USCS       Stratum     Stratum       Stratum     Stratum       USCS     main size notice throughout, model and stratum       Stratum     Stratum       Stratum     Stratum       Stratum     Stratum       Stratum     Stratum       Stratum     Stratum       Stratum     Stratum       Strat												
			Somerset & Chestnut Streets, Portland, Maine         File No.         Steinert           Maine Media Chestnut Streets, Portland, Maine         Hake Media         File No.         35611-000           Maine Media Chestnut Streets, Portland, Maine         Hake Media         Hake Media         Hake Media           Maine Media Chestnut Streets, Inc.         Date         20 October 2008         Weather         Struny, 50°           V/         Incodential Projects, Inc.         Groundwater depthalentry rates (In/Inin); 3.7 gal/min         Test Provide Structure, oder, motor, notest provide and desveration of the description on General and field Component personale setimates, manual test projectines of the description on General and desveration of the description on General and test provide and desveration of the description on General and test provide and the description on General and test provide and the description on General and test provide and the description on General and test provide and the description on General and test provide and the description on General and test provide and tes													
	(H)		ATION AND DESCRIPTION							Fie	ld T	ests				
	Depth (ft)		Elev./ Depth		(color, natura test propertie	es, structure, odors, moisture	e, other descriptions and observation	nual ons	% Coarse	% Fine	% Coarse	% Mediuin % Fine	% Fines	Dilatancy	[oughnes	Plasticity
	0 -		s 2 in., no structure, slight orcelain fragments present, tra				103	0 40	15							
				Inite Health / United Way Development     File No.     14 and the second												
ſ	2 -															
			3.5	SP. SM	Black poorly	graded SAND with silt	(SP-SM) mps 2 mm no struct			- +	-  -		20		-+	
┟	- 4 -		4.0		organic odor,	Way Development     File No.     35611-000       Way Development     File No.     35611-000       Hat Rep     B. Steinert     Date     20 October 2008       Meather     Summy, 50°     Steinert     Date     20 October 2008       Meather     Summy, 50°     Steinert     Date     20 October 2008       Meather     Summy, 50°     Steinert     Date     20 October 2008       Meather     Summy, 50°     Steinert     Date     20 October 2008       More natural printing and the and antificial component porcentage astimates, manual strong other deception and deservations     Steinert     Steinert       More natural print is and antificial component porcentage astimates, manual strong other deception and deservations     Steinert     Steinert       More natural print is and antificial component porcentage astimates, manual strong other deception and deservations     Steinert     Steinert       Steinert is and antificial component porcentage astimates, manual strong other deception and deservations     Steinert     Steinert       Steinert is and antificial component porcentage astimates, manual strong other deception and deservations     Steinert     Steinert       It forw, all part add SAND with silt (SP-SM), mps 2 m, no structure, slipht     Steiner tops     Steiner tops       It forw, molt part add SAND with gravel (SN), mps 3 m, no other deception and deservating astimates, in the transtructure and structure and dec										
			4.5		structure, no	odor, moist	pment       Al. Maine       File No. 35611-000         H&A Rep       B. Steinert         Date       20 October 2008         Weather       Sunny, 50°         Plan       Groundwater depths/entry rates (in./min.): 3.7 gal/min         L-MANUAL IDENTIFICATION AND DESCRIPTION insiste and artificial component percentage estimates, manual directure, dom, moleture, other descriptions and observations GEOLOGIC INTERPRETATION)       Field Tests         yey SAND (SC), mps 2 in., no structure, slight r, moist, brick and porcelain fragments present, trace       5       10       30       40       15         -FILL-       -       5       1530/25       16       10       70       20         -FILL-       -       5       1530/25       16       10       15       16         -FILL-       -       5       1530/25       15       10       15       15         -FILL-       -       -       10       70       20       -       15       15       10       15       15       10       15       15       10       15       15       10       15       10       15       10       15       10       15       10       15       10       15       10       10       10       10       10									
	· 6 -				Black, silty S moist to wet,	trace organics, brick bra										
4 Dec 08	Ū		6.5	SP	Tan to yellow structure, no	v-brown, poorly graded S odor, moist to wet	pment       Al. Maine       File No. 35611-000         Han       Groundwater depths/entry rates (In./min.): 3.7 gal/min         L-MANUAL IDENTRICATION AND DESCRIPTION       Groundwater depths/entry rates (In./min.): 3.7 gal/min         L-MANUAL IDENTRICATION AND DESCRIPTION       Groundwater depths/entry rates (In./min.): 3.7 gal/min         L-MANUAL IDENTRICATION AND DESCRIPTION       Groundwater depths/entry rates (In./min.): 3.7 gal/min         L-MANUAL IDENTRICATION AND DESCRIPTION       Groundwater depths/entry rates (In./min.): 3.7 gal/min         Mist and artificial component percentage estimates, manual inductive, dors, moleture, other descriptions and observations gal at a st at at the st and artificial component percentage estimates, manual inductive (INTERPRETATION)         Yey SAND (SC), mps 2 in., no structure, slight r, moist, brick and porcelain fragments present, trace       5 10 30 40 15         -FILL-       5 10 50 25 15 10         -FILL-       5 10 50 15 5         -FILL-       5 10 50 15 5         Dist, roots throughout, probable former, topool, re organics, brick bragmens, clinker-like material - FILL-       5 10 50 15 5         -FILL-       10 60 15 5         over, poorty graded SAND (SP), mps 4.75 mm, no       10 60 15 5         r, moist to wet       -FILL-         -BOTTOM OF EXCAVATION-       10 80 15 5         Ved seeping into test pit       10 10 10         Olitatncy									
B.GPJ						Way Development treets, Portland, Maine       File No.       35611-000         H&A Rep       B. Steinert         J. Inc.       Date       20 October 2008         MR       Weather       Sumy, 50°         atlon:       Sec Plan       Groundwater depths/entry rates (in/min.):       3.7 gal/min         Obstance of the information of the mechange and observations       Gravet Sand       Sand       Field Tests         State opposities, study, other mechange and observations       Gravet Sand       Sand       Field Tests         State opposities, study, other mechange and observations       Gravet Sand       Sand       Field Tests         State opposities, study, other mechange and observations       Gravet Sand       Sand       Field Tests         State opposities, study, other mechange and observations       Gravet Sand       Sand       Field Tests         State opposities, study, other mechange and observations       Sand       Field Tests       Sand       Field Tests         State opposities, study, brick and porcelain fragments present, trace       Sand Sand Sand Sand Sand Sand Sand Sand										
G:/PROJECTS/35611/FIELD PROGRAM/35611 TP201-203.GPJ	8 -			thange Elev./ (color, natural grain size and afficial component percentage estimates, manual test properties, structure, odors, moisture, other descriptions and observations GEOLOGIC (NTERPRETATION)       gravel (solution)       gravel (solution) </th <th></th>												
S\3561			11.0			-BOTTOM OF E	XCAVATION-		+							
HA-LIB07-1R-POR-06-03-08.GLB HA-TP07-1.GDT G:\PROJECT			NA     Remarks: Water observed sceping into test pit excavation at approximately 11 ft below existing ground surface.     Field Tests       Dilatancy     R - Rapid     S - Slow     N - None													
	Obstru	ICTIONS: NA	ı – – – – – – – – – – – – – – – – – – –	Rem	arks: Water of	bserved seeping into test n	it	Field	d Te	sts						
HA-LIB07-1R-POR-L		INA		excava	ation at approxim	own, clayey SAND (SC), mps 2 in., no structure, slight       5       10       30       40       15         -like odor, moist, brick and porcelain fragments present, trace (roodets)       -FILL-       5       10       70       20         -FILL-       -FILL-       5       10       70       70       70       70         oorly graded SAND with slit (SP-SM), mps 2 mm, no structure, no odor, moist, rootest moughout, probable former topsoil       -       5       15       30       25       15       10       70       20         in, well, graded SAND (htt gravel (SM), mps 2 in., no structure, no odor, wet, trace organics, brick bragments, clinker-like material -FILL-       5       15       15       15       15       15       15       15       5       10       60       15       5       10       60       15       5       10       70       20       10										
		Standing W	Vater in C	ompleted	<u>Pit</u>		ouiders			_						
HA TESTPIT-07-1		lepth				12 to 24 N/	A = NA		-			dth (				
H	me								_			ю.	11.	0		

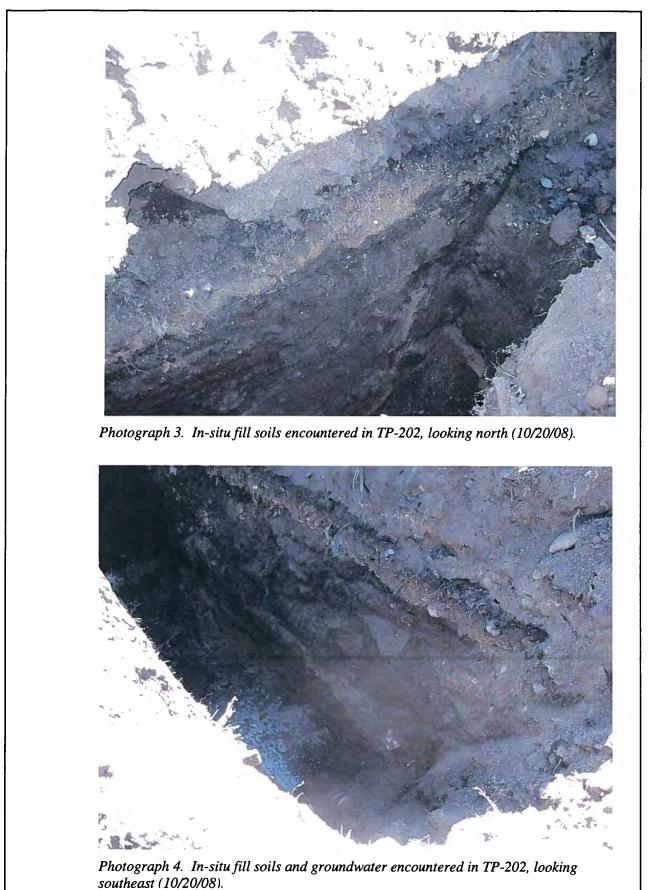
H Al	ALEY& LDRICH			TE	EST PIT LOG		ר	rest	t P	it M	۱o.	]	<b>[P-</b> ]	203	3
Proj	ect N	laine H	ealth / Ur	nited Way De	evelopment		Fil	e No	<b>o</b> .		356	11-0	00		
					ortland, Maine		На	3A F	lep		B.	Stein	nert		
							Da	ite	-		20 0	ctob	er 20	008	
-				-					~ ~						
-	Control El:       9 +/-       Location:       See Plan       Croundwater depth=/entry rates (n/min, i: 4, 6 gal/min         El Datum: Portland City Datum       USCS       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Caravel. Sand       Field Tests         El Datum: Portland City Datum       USCS       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Caravel. Sand       Field Tests         El Depth       USCS       Symbol       Coor, natural grain abs and artificial component percentage estimates, manual test property structure, no odor, most, trace brick fragments       FILL-       5 (25) 45 (15) 10         2       Sw. SM       Grav-brown, well-graded SAND with sit (SW-SM), mps 0.75 In., no       5 (25) 45 (15) 10       Fin. to yellow-brown, point/ graded SAND with sit (SW-SM), mps 3 in., no       15 (10) 60 (26) 10         2.0       SW. SM       Brown, well-graded SAND with sit (SW-SM), mps 3 in., no       15 (10) 60 (26) 10       Fin. to yellow-brown, most, trace brick fragments         3.5       SW. SM       Brown, well-graded SAND with sit (SW-SM), mps 3 in., no       15 (10) 60 (26) 10       Fin.         4       SW. SM       Brown, well-graded SAND with sit (SW-SM), mps 3 in., no       15 (10) 60 (26) 10       Fin.         5W. SM       Brown, well-graded SAND with sit (SW-SM) mps 4 in., no structure, no odor, most to wet       Site of the most structure, no odor, most to wet       Site of the most structure, no odor, most to wet														
	Contraction       Extension       Meather       Sunny, S <sup>0</sup> Equipment Used       Komatsu PC 35 MR       Groundwater depthalentry rates (in./min.): 4, 6 gal/min         EL Datum: Portland City Datum       Cocation: See Plan       Groundwater depthalentry rates (in./min.): 4, 6 gal/min         EL Datum: Portland City Datum       Stratum       USCS       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Gravel       Samo       Samo       Fit         EL Datum: Portland City Datum       Symbol       Gray-brown, well-graded SAND with sile (SW-SM), mps 0.75 in., no       Samo       5 28 46 15 10       Fit         Commodel       Sw. SM       Gray-brown, well-graded SAND with sile (SW-SM), mps 0.75 in., no       S 28 46 15 10       Site structure, no odor, moist ratucture, no odor, moist roke, concrete fragments present       Site structure, no odor, moist roke, concrete fragments present         4       Sw. SM       Brown, well-graded SAND with sile (SW-SN), mps 3 in., no structure, no odor, moist cinders, ash, bricks, concrete fragments present       Site structure, no odor, moist roke, concrete fragments present         6       Interved in western third of test pit.       Fill       Poly Tests         8       Interved in western third of test pit.       Poly Tests       Poly Tests         9       Poly Sec.       Sec.       Pol								ı 						
(#)				\ \	/ISUAL-MANUAL IDENTIFIC/	ATION AND DESCRIPTION				s: •	and E	-		ld T 양	
		Elev./ Depth		(color, natu test proper	ties, structure, odors, moisture	<ul> <li>other descriptions and observat</li> </ul>	anual ions	% Coars	% Fine	% Coars	% Mediu % Fine	% Fines	Dilatancy	Toughne	Plasticity
0 -			SW- SM	Gray-brown structure, n	n, well-graded SAND with o odor, moist, trace brick	silt (SW-SM), mps 0.75 in., fragments	no		5	25	45 1	5 10			
					-FIL	L-									
<b>9</b>							L.								
- ۲			SP	structure, n	o odor, moist	· · · ·		[-							_
		2.7	sw-	ND with gravel (SW), mps 3	in.,	15	10	25	35 10	5					
Equipment Used     Komstsu PC 35 MR     Weather     Sump: 50°       Ground EL: 9 +/- EL Outure: Portland City Daama     Location: See Plan     Groundwater deptha/entry rates (in/Inin): 4.6 gal/min.       EL Datum: Portland City Daama     VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION for the properties and access modulus. Other descriptions and administic and access modulus. Other descriptions and administic access and administic access administress administic access administic access administic access adminis															
-															
EL Datum: Portland City Datum       VISUAL-MANUAL IDENTIFICATION AND DESCRIPTION       Gravel Sand       San															
6	Citent       Maine Medical Center       HBA Rep       B. Steinert         Contractor       Environmental Projects, Inc.       Date       20 October 2008         Equipment Used       Konasu PC 35 MR       Groundvater depths/entry rates (n./min):       4. 6 ga/min         EDuture: Fortiand City Dature       Location:       Sce Plan       Groundvater depths/entry rates (n./min):       4. 6 ga/min         EDUture: Fortiand City Dature       USCA       VISUA-MANUAL IDENTIFICATION AND DESCRIPTION       Grave Samada       Samada       Field Tents         E       Sample       Distant       USCA       VISUA-MANUAL IDENTIFICATION AND DESCRIPTION       Grave Samada       Samada       Field Tents         E       Sample       Stature       Samada       Grave-freew, wellstate, color, motion (well expecting statute,  color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statute), color, motion (well expecting statu														
Ŭ	Client     Maine Medical Center     HAA Rep     B. Steinert       Contractor     Environmental Projects, Itc.     Date     20 October 2008       Equipment Used     Konstau PC 35 MR     Coundwater depths/entry rates (in./min): 4. 6 gal/min       Exercise Determine The Determine Count of the propried and the count of the propried and the propried and the count of the structure, no odor, motit depto/add SAND Wild gravel (SW), mp3 0.75 in., no     Structure       End     Structure, no odor, motit     -FILL-     Structure, no odor, motit     Structure, no odor, motit       2     2.0     Swr. SM     Grav-brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       2     2.0     Swr. SM     Grav-brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       2     2.0     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       3.5     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       4     3.5     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       4     3.5     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       6     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75 mm, no     10 Gel Sd 10 1       10     Swr. SM     Brown, wellgraidd SAND Wild gravel (SW), mp3 1.75														
Cilent     Maine Medical Center     H&A Rep     B. Steinert       Contractor     Environmental Projects, Inc.     Date     20 October 2008       Equipment Used     Consults PC 35 MR     Conditionation PC 35 MR     Date     20 October 2008       Cond El:     9 x/- Environmental Projects, Inc.     Locetion:     Sce Plan     Coroundvater depths/entry rates (n/min.):     4. 6. gal/min       E     Date:															
Contractor       Environmental Projects, Inc.       Date       20 October 2008         Equipment Used       Komatsu PC 35 MR       Groundwater depths/entry rates (In./min.):       4. 6 gal/min         El. Datum: Portland City Datum       Location: See Plan       Groundwater depths/entry rates (In./min.):       6. 6 gal/min         El. Datum: Portland City Datum       USCS       Location: See Plan       Groundwater depths/entry rates (In./min.):       Graved       Samo       Fluid         Color       Sample       Stratum Depth       USCS       Color, matria gain size and afficial component percentage estimates, manual structure, no odor, molit, mace binds, fragments       Graved Samo       Samo       Fluid       Fluid         2       2.0       -SP       Tan to yellow-brown, poortly graded SAND with gravel (SW), mps 4.75 mm, no       5 Rel 43 18 10       Here         2       2.0       -SP       Tan to yellow-brown, poortly graded SAND with gravel (SW), mps 4.75 mm, no       10 (60 20 10 floid       Here         3       SW-SM       Brown, well-graded SAND with gravel (SW), mps 4.75 mm, no       10 (60 20 10 floid       Here         4       -       -SP       Tan to yellow-brown, beach, well graded SAND with gravel (SW), mps 4.16, mo structure, no odor, most       -       SE (20 30 floid       -         4       -       -       SP       -															
Contractor       Environmental Projects, Inc.       Date       20 October 2008         Equipment Used       Komatsu PC 35 MR       Groundwater depthsfentry rates (in./min.): 4.6 gal/min         Et Datum: Portland City Datum       Cocetton:       Scr Plan       Groundwater depthsfentry rates (in./min.): 4.6 gal/min         Et Datum: Portland City Datum       USCS       VISUAL MANUAL IDENTIFICATION AND DESCRIPTION       Gravetal Sand       Field Tests         Et Datum: Portland City Datum       Symbol       Cock, natural grain size and anthoa component porcentage estimates, manual text proporties, finucce (in.out) (interwiter XITCAN)       Gravetal Sand       Field Tests         0       Swmbol       Cock, noist       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)         2       2.0       SW SM       Gravetal interwite, no odor, noist       FILL-       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)         2       2.0       SW SM       Gravetal SaND with sit (SW SM) (mps 4.15 mm, no interwiter, no odor, noist with web (interwiter XITCAN)       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)         2       2.0       SW SM       Gravetal SaND with sit (SW SM) (mps 4.15 mm, no interwiter NITCAN)       Swmbol (interwiter XITCAN)       Swmbol (interwiter XITCAN)         2       3.5       SW SM															
	Silent       Maine Medical Center         Contractor       Environmental Projects, Inc.         Contractor       Environmental Projects, Inc.         Ground El:       9.4.         E. Datum: Portland City Datum       Constructor See Plan       Groundwater depths/entry rates (in-Inh): 4.6 gal/min         E. Datum: Portland City Datum       USCS       Constructor See Plan       Groundwater depths/entry rates (in-Inh): 4.6 gal/min         E. Datum: Portland City Datum       USCS       Convertion mental projects (incluster)       Groundwater depths/entry rates (in-Inh): 4.6 gal/min         E. Datum: Portland City Datum       USCS       Convertion mental projects (incluster)       Groundwater depths/entry rates (in-Inh): 4.6 gal/min         Gold       Sample       Structure, no odor, moltary, other depths/entry rates (in-Inh): 4.6 gal/min       Field Tests         Gold       SW SM       Gray-hown, well-graded SAND with all (SW SM), mps 0.75 in., no       5 22 45 15 10 1       Field Tests         Converture, no odor, moltic under, nathe first, well-graded SAND (SM) (SM), mps 1 in., 15 10 [28 36 16 ] 5 10 1       Field Tests         Converture, no odor, moltic under, nath (if GW SM) (M) in GW SM, mps 3 in., 16 10 [28 36 16 ] 5 10 1       Field Tests         Converture, no odor, moltic under, nath (if GW SM) (M) in GW SM, mps 1 in., 16 10 [28 36 16 ] 5 10 1       Field Tests         Corrow, tease CAA with bricks, coustret fragments prese														
10 -															
		11.0		1	-BOTTOM OF E	XCAVATION-				+	+-	┢	$\left  - \right $		$\neg$
11.0 -BOTTOM OF EXCAVATION-															
Obstru	ctions: NA	-					Fic	eld To	ests						<u> </u>
	0 - 11.0 -BOTTOM OF EXCAVATION														
						Plasticity N	Nonpl	astic	L -	Low	M - I	Mediu	ım H	1 - Hi	gh High
						oulders		Te	est l	Pit C	Dime	nsic	ons (	ft)	
	•				12 to 24 NA	A = NA			-		idth	•••		}	
											nc.		<u> </u>		



Photograph 1. In-situ fill soils encountered in TP-201, looking northwest (10/20/08).



Photograph 2. In-situ fill soils and groundwater encountered in TP-201, looking northwest (10/20/08).



2013 Test Boring Logs for Proposed Somerset Street Improvements (see Reference 6)

									RT			ori						13	-1		
Clie	ent	tractor Northern Test Boring Tractor Northern Test Boring			Sł St	neet art	Nc	). 1 Ja	of anua	1 ary	31,										
	City of Portland Contractor       Casing       Sampler       Barrel       Drilling Equipment and Procedures         ype       HSA       S       -       Rig Make & Model: Diedrich DS0 Bit Type: Cutting Head Drill Muck None         tammer Fail (n.)        140       -       Casing: HSA Spun to 18.0 ft Hoist Hammer: / Automatic Hammer         tammer Fail (n.)        30       -       Bit Type: Cutting Head Drill Muck None         tammer Fail (n.)        30       -       Hoist Hammer: / Automatic Hammer         tammer Fail (n.)        30       -       HOMME: max particle still sti			t and Procedures									201	13							
Тур	Casing         Sampler         Barrel         Drilling Equipment and Procedur           pe         HSA         S          Rig Make & Model: Diedrich D50           side Diameter (in.)         2.5         1.375          Diffind Wat: None           ammer Fall (in.)          30          Hoist/Hammer: / Automatic Hammer           ammer Fall (in.)           Bit Type: Cutting Head         Model: NAC           ammer Fall (in.)           Bit Type: Cutting Head         Model: NAC           ammer Fall (in.)            Bit Type: Cutting Head				drich D50		на	8.A F	Rep	). N	1. S	nov	v								
Insid										17	.5 (	app	rox	.)	- 4						
Under Casing         Sampler         Barrel         Drilling Equipment and Procedures         Finite M. Nachau Intervention (N. Nachau Interventinterventintervention (N. Nachau Interventintervention (N. Nachau I			уD	au																	
Client         City of Portfauld Contractor         Sampler         Barrel         Drilling Equipment and Procedures         Sheet No. 1 ananzy 31, 2013 Final         Sheet No. 1 ananzy 31, 2013 Final           Type         H3A         S         -         Figh Male & Model:         Defining Equipment and Procedures         Drilling M. Nadeau           Type         H3A         S         -         Figh Male & Model:         Defining Haid         Defining M. Show           Hammer Veight (b)         -         100         -         Casing:         HSA Span to 18.0 ft         Datum         Profile Mail         Now           Hammer Veight (b)         -         -         30         -         Profile Mail         Now         Elevation 7.5 (approx.)         Datum         Profile Mail         Elevation 7.5 (approx.)         Datum         Profile Mail         Datum         Profile Mail         Now         Elevation 7.5 (approx.)         Datum         Profile Mail         Now         Elevation 7.5 (approx.)         Datum         Profile Mail         Datum         Datum         Datum																					
t)	SMO .	tractor Northern Test Boring Tractor Northern Test Boring Casing Sampler Barrel Drilling Equipment and Proce e Casing Sampler Barrel Drilling Equipment and Proce the HSA S - Rig Make & Model: Diedrich D50 Bit Type: Cuting Head Drill Mud: None Bit Type: Cuting Head Drilling Equipment and Proce Bit Type: Cuting Head Distribution of the State S						1			d		F	ield	Те						
Depth (f	ampler Bl	HSA         S          Rig Make & Model:         Didrich D: Bit Type:         Curting Head Drill Mud: None           er Weight (lb)          140          Casing:         HSA Spun to 18.0 ft           er Fall (in.)          30          PID Make & Model:         N/A           er Fall (in.)          30          PID Make & Model:         N/A           er Fall (in.)          30          PID Make & Model:         N/A           er Fall (in.)          30          PID Make & Model:         N/A           er Fall (in.)           30           PID Make & Model:         N/A           er Fall (in.)              PID Make & Model:         N/A           1 12         2.5						ional descriptions	3	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity			
0 -	0	HNG-Rig Make & Model: Didrich DS Bit Type: Cutting Head Drill Mud: Nonea Diameter (in.)2.51.375-ner Weight (ib)-14030-Casing: HSA Spun to 18.0 ft Hoist/Harmmer: / Automatic H PID Make & Model: NA $\frac{80}{92}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{1}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{1}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{1}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{9}$ $\frac{1}{2}$ $\frac{2}{2}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{2}{9}$ $\frac{1}{2}$ $\frac{1}$					ICRETE-	/							-	-	-				
	10 12							and	15	20	5	50	25	5							
	City of Portland tractorNorthern Test BoringCasingSamplerBarrelDrilling Equipment and PiRig Make & Model: Diddrich DSe Diameter (in.)2,51.375Bit Type: Cutting HeadDrill Mud: Nonemer Weight (lb)140Casing: HSA Spun to 18.0 ft30PID Make & Model: N/AVisUAL-MANUAL IDENTIFICATION AND DOf Cip and Big Big Big Big Big Big Big Big Big Big						9 (SM)		5	10	40	30	15								
5 -	2 4 4				SI				th gravel (SM), trace ash,	coal,	5	25	20	15	20	15					
Project         Proposed Improvements to Somerset Street, Portland, Maine Cantacitor         File No. 3937-4000 Sheel No. 1 of 1 Sheel No. 1 She																					
	ıps					30	70														
		1 2				M			dor, wet		s, mps					30	70				
	15 -	1 2			,	.0 C			n CLAY (CL), trace organics	(black streaks), shells, mp	s						100				
	3						-		<b>.</b> .												
	1 1				C		y soft, gray									100					
	1 1				C			v, lean CLAY (CL), black org	anics, mps 0.075 mm, no	odor,						100					
20 -	1			20	.0	Bot	tom of Exp	loration 20.0 ft - No Refusal													
		Wa				nth (fr	to:								-						
D	ate	Time		e (hr )	Bottom	Botto	m Water	· ·	Screen				`	<i>,</i>							
1/3	1/13	09:30	+	- 10				U - Undisturbed Sample	Cuttings				(11	,		U.U					
								C - Rock Core Sample	Concrete Bentonite Seal	Bori	ng	No			]	HA	.13	-1			
Field	d Tests	:		Dilata	ancy: F	R - Rapio	S - Slow		city: N - Nonplastic L - Lo							Verv	Hia	h			

H A	IAL LD	EY& RICI	Ξ H			Т	EST	BORING REPO	RT									.13	-2	
Clie	ent	City of	of Por	tland		to Some	erset Str	eet, Portland, Maine			Sł St	neet art	No	). 1 Ja	of anua	1 ary 3	31,			
Project Project Proposed Improvements to Somerset Street, Portland, Maine Client 	.5																			
	Han		ct       Proposed Improvements to Somerset Street, Portland, Maine Circle of Portland actor       File No.       39537-000 Sheel No.       File No.       39537-000 Sheel No.       Sheel No.       101         ctor       Casing       Sampler       Barrel       Dnilling Equipment and Procedures       Drilling Maine       Sheel No.       102         Dummeter (n), 2.5       1.375        Bit Not.       101       Had & None       Had & None         Dammeter (n), 2.5       1.375        Drilling Equipment and Procedures       Drilling Coupling (136 Aprin to 18.0 ft) Drill Mad: None       Head None       Elevertions 8.0 (approx.) Datum       Datum       Head None         deg deg deg deg deg deg deg deg deg deg																	
	Contractor         Northern Text Boring         Start         January 31, 2013           Type         HSA         S         -         Rig Mate & Model: Diothich D30         Driller         Manary 31, 2013           Inside Diameter (in.)         2.5         1.375         -         Rig Mate & Model: Diothich D30         Execution 84 (approx).         Execu	Те	<																	
Depth (f	Northern Test Boring           Casing         Sampler         Barrel         Drilling Equipment and F           e Diameter (in.)         2.5         1.375          Bit Type: Cutting Head           mer Weight (lb)          140         -         Casing: HSA Spun to 18.0 ft           mer Fall (in.)          140         -         Casing: HSA Spun to 18.0 ft           mer Fall (in.)          -         NUSUAL-MANUAL IDENTIFICATION AND         Casing: HSA Spun to 18.0 ft           s g g g g g g g g g g g g g g g g g g g					ional descriptions	<b>2</b> *,	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughnes	Plasticity				
Casing         Sampler         Barrel         Drilling Equipment and Procedures         Finish         Tanuary 31, 2013           Type         HSA         S         -         Figh Aliae & Model: Discription 15.0 ft         Finish         Tanuary 31, 2013         Finish         Finish         Finish         Finish         Finish         Finish         Finish         Finish </td																				
	60 51			0.2	\$W/G	W Very d mps 2.	lense (fro .0 mm, n	ozen), brown, well-graded SA 10 odor, moist	ND and GRAVEL (SW/	GW),	20	20	20	20	20					
Citient         City of Purtland         Sheet No. 1 of 1           Contractor         Nontherm Test Boring         Sheet No. 1 of 1           Type         HSA         S         -           Inside Diameter (n)         2.5         1.775         -           Hammer Wieght (b)         -         100         -         Drilling Equipment and Procedures         Drilling M. Nackau           Hammer Wieght (b)         -         100         -         Casing         HSA Span to 18.0 ft         HSA Rows           Hammer Wieght (b)         -         30         -         Drill McK Noce         Data M. Noce         Evention 8.0 (approx.)           Hammer Fall (n.)         -         30         -         TO Maké & Model: NA         Detum         Detum         Tortid City Data           1         10         2.4         10.4         -         Convert Statuter. Color, mostatic. spring and escriptions         Convert Statuter. Color, mostatic. Statute																				
5 -	5 8 6			-	GM			, orange, BRICK with silty gr	avel (GM), mps 2.0 mm	, no		10	5	35	35	15				
	3 4 5			6.4	SM	wooi	D with gi		es, mps 0.5 in., no odor	r, wet — —				+ -	30	70		_ +		-
Client         City of Portfield         Sheet No. 1 of 1           Contractor         Northern Test Boring         Sint January 31, 2013           Type         HSA         S         -           Hindde Dameter (n.)         2.5         1.375         -           Hammer Kall (b)         -         HSA         Sont January 31, 2013           January 31, 2013         Drill Model: Decirich DSO         HEAR FER. N. Sonce           Hammer Kall (b)         -         Cassing: HSA Spon 0 18.0 (the Coefficient State Model: NA           Hammer Fall (b)         -         HOBAKE MODOP MARE; max function for the Model Matter Note Coefficient State Model: NA           Eig Mark (b)         -         HOBAKE MODOP MARE; max function for the Model Matter State Model: NA           Eig Mark (b)         -         HOBAKE MODOP MARE; max function for the Model Matter State Model: NA           Eig Mark (b)         -         HOBAKE MODOP MARE; max function for the Model Matter State Matter State Matter State Matter State Matter State Matter State Matter State Matter State Matter State Matter State Matter Matter State Mater State Matter State Matt																				
10-								-HARBOR BOTTOM	DEPOSIT-											
	2			11.0	CL	Soft, b	orown-gra	ay, mottled lean CLAY (CL),	mps 0.075 mm, no odo	r, wet						100				
	2		12.0	-	CL	Soft, b	orown-gra	ay, mottled lean CLAY (CL),	mps 0.075 mm, no odo	r, wet						100				
	2	24	14.0																	
15 -	1 1			15.5		Soft, b	orown-gra	ay, mottled lean CLAY (CL),	mps 0.075 mm, no odo	r, wet	-		-			100		_		
	2			- 15.5		Note:	Auger p	olug stuck at 16.0 ft. Advance	to 18.0 ft.											
								-MARINE DEPO	DSIT-											
	WOH 1			-	CL		oft, gray	/, lean CLAY (CL), black org	anics, mps 0.075 mm, n	o odor,						100				
20 -	1			20.0		Botton	n of Expl	loration 20.0 ft - No Refusal												-
		_						1											_	-
		Wa				h (ft) to	) <u>.</u>			-										-
D	ate	Time		(hr ) B	ottom	Bottom			Screen				•	·						
1/3	1/13	10:40	0						Cuttings				. (1			0.0				
								C - Rock Core Sample	Concrete Bentonite Sea	al	-				]	HA	13-	-2		
Field	d Tests	:						N - None Plasti m H - High Drv S	city: N - Nonplastic L -	Low M-N w M-Me	/ledi diur	um n H	н- I-Н	Higł iah	n V-	Verv	Hiał	า		

HA AL	ALI DI	EY& RICI	z H				TEST	BORING REPO	RT			Bo	orir	ng	No	).		HA	.13	-3	
Client		City of	of Por	tland		o Son	nerset Str	eet, Portland, Maine				Sh Sta	eet art	No	. 1 Ja	of	1 ry 1	31,			
<b>IEST BORING REPORT</b> File No. 39537-000 Sheet No. 1 of 1 Start January 31, 2013Project Client Client Contractor Northern Test BoringFile No. 39537-000 Sheet No. 1 of 1 Start January 31, 2013Casing SamplerBarrel BarrelDrilling Equipment and ProceduresTypeHSA Inside Diameter (in.) Hammer Weight (lb) Hammer Fall (in.)Sampler 1.30Rig Make & Model: Diedrich D50 Drill Mud: None Casing: HSA Spin to 18.0 ft Hoist/Hammer: / Automatic Hammer PID Make & Model: N/AElevation 7.5 (approx.) Datum Datum Cation See Plan $\mathfrak{E}$ $\mathfrak{Fiel}$ $\mathfrak{Fiel}$ $\mathfrak{Fiel}$ Test Test Test $\mathfrak{Fiel}$ $\mathfrak{Field}$ $\mathfrak{Fiel}$ $\mathfrak{Fiel}$ $Fi$																					
ADDRACH         LEST BORING REPORT         Project         Project         Project         Project         Project         Project         Star         January 31.           Project         Contractor         Northern Test Boring         Barrel         Drilling Equipment and Procedures																					
Project Client         Project																					
							ALDRICH         LEST BORING REPORT           Project         Proposed Improvements to Sumerset Street, Portland, Maine         File No. 10 f 1           Controctor Northern Test Boring         File No. 10 f 1         Start           Type         HSA         -         Bit Type: Cutting Head         Dilling Equipment and Procedures           Type         HSA         -         Bit Type: Cutting Head         Dilling Cutting Head           Hammer Fall (n), -         -         10 Mole: No.         Dilling Cutting Head           Hammer Fall (n), -         -         Ording Head         HSA         -           Bit Type: Cutting Head         -         Dilling Main: No.         Elevation 7.3 (approx.)           Hammer Fall (n), -         -         Ording Head         HACR PL         Start (L) Puture.           Bit Syste: Cutting Head         No.         Elevation 7.3 (approx.)         Display Head Start (L) Puture.           Bit Syste: Cutting Head         No.         Elevation 7.3 (approx.)         Display Head Start (L) Puture.           Bit Syste: Cutting Head         No.         Elevation 7.3 (approx.)         Display Head Start (L) Puture.           Bit Syste: Cutting Head         No.         No.         No.         Start (L) Puture.           Bit Syste: Cutting Head         No.         No. </td														
Deptr Sampler	per 6 in.	HSA         S          Rig Make & Model: Bit Type: Cutting H Drill Mud: None Casing: HSA Spun Hoist/Hammer: / / PID Make & Model:           er Fall (in.)          30         -         Pill Mud: None Casing: HSA Spun Hoist/Hammer: / / PID Make & Model:           er Fall (in.)          30         -         Pill Mud: None Casing: HSA Spun Hoist/Hammer: / / PID Make & Model:           er Fall (in.)          30         -         Pill Make & Model:           er Fall (in.)          30         -         Pill Make & Model:           er Fall (in.)          30         -         Pill Make & Model:           er Fall (in.)          30         -         Pill Make & Model:           er Fall (in.)          30         -         Pill Make & Model:           er Fall (in.)           30         -         -           er Fall (in.)           8         Model:         -         -           er Fall (in.)                 er Fall (in.)          0.3         SW              f S S S S S S A 4.4							NAME, m tional des	ax. particle size* criptions	,	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity	
Project Proposed Improvements to Somerset Street, Portland, Maine Cited To Proposed Improvements to Somerset Street, Portland, Maine Cited To Proposed Improvements to Somerset Street, Portland, Maine Cited To Proposed Improvements to Somerset Street, Portland, Maine Contractor Northern Test Boring           Type Casing Sampler Barrel Drilling Equipment and Procedures           Type Inside Diameter (in.)         2.5         1.375          Dilling Equipment and Procedures Note: Note Casing: IISA Span to 18.0 ft           Hammer Fail (in.)          30          Dilling Equipment and Procedures Note: Note Casing: IISA Span to 18.0 ft           Hammer Fail (in.)          30          Dilling Equipment and Procedures Science (Too National Elammer Print Note: Note Casing: IISA Span to 18.0 ft           Hammer Fail (in.)          30          Dilling Equipment and Procedures Science (Too National Elammer Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print Note: National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print National Elamone Print Natin National Millin, Nation Research Print National E							5	15	25	25	25	5				F					
4	9 6	S1 $0.4$ $20$ $0.3$ SW-BITUMINOUS CC (Frozen), brown, well-graded SA in., no odor, moistS2 $2.4$ $0.3$ SWVery dense (frozen), brown, well-graded SA in., no odor, moistS2 $2.4$ SMLoose, brown, silty SAND (SM), brick fragmoist to wet organics, mps 1.0 in., no odor, wetS3 $4.4$ MLMedium stiff, dark gray-brown SILT with so organics, mps 1.0 in., no odor, wetS4 $6.4$ MLMedium stiff, dark gray-brown, SILT with organics, mps 1.0 in., no odor, wetS5 $8.4$ 1810.0MLS610.0 2411.011.0S712.0 2411.0CLS814.013.5CLVery soft, dark gray, lean CLAY (CL) with layers								graver (3w), m	1.0										
4	5       S1       0.4         5       S1       0.4         6       20       2.4         6       -         7       S2       2.4         6       -       -         6       -       -         7       S2       2.4         18       4.4       -         2       S3       4.4         2       8       6.4         3       -       -         2       S3       4.4         2       8       6.4         3       -       ML         Medium stiff, dark gray-brown SILT with sa organics, mps 1.0 in., no odor, wet       -         10       8.4       -         11       8.0       ML         ML       Soft, dark gray-brown, sandy SILT (ML) wi         mm, no odor, wet       -         -       11.0							ments, mp	os 1.0 in., no od	or,	5	10	10	30	30	15					
5 - 2	2 2 3	5       S1       0.4       0.3       SW       -BITUMINOUS C         5       20       2.4       0.3       SW       Very dense (frozen), brown, well-graded S         5       S2       2.4       18       4.4       SM       Loose, brown, silty SAND (SM), brick fr         5       S3       4.4       ML       Medium stiff, dark gray-brown SILT with organics, mps 1.0 in., no odor, wet         5       S4       6.4       ML       Medium stiff, dark gray-brown, SILT with organics, mps 1.0 in., no odor, wet         5       S5       8.4       10       8.0         0H       24       12.0       11.0       ML					and (ML),	with wood piec	es,		10		15	15	60						
2 1 2	2 1 2			-	ML				and (ML)	, with wood pied	ces,		10		15	15	60				
1	36       15       Impliest or other, mean $4$ $18$ $4.4$ $18$ $4.4$ $3$ $3$ Impliest or other, mean       Impliest or other, mean $2$ $53$ $4.4$ $52$ $2.4$ $2$ $8$ $6.4$ $-FILL$ - $1$ $10$ $8.4$ $0.4$ $0.6$ $1$ $10$ $8.4$ $0.0$ ML       Medium stiff, dark gray-brown, SILT with sand (ML), organics, mps $1.0$ in., no odor, wet $1$ $10$ $8.4$ $0.0$ ML       Soft, dark gray-brown, sandy SILT (ML) with organics mm, no odor, wet $1$ $18$ $10.0$ $ML$ Soft, dark gray-brown, sandy SILT (ML) with organics mm, no odor, wet $1$ $24$ $12.0$ $11.0$ $11.0$ $11.0$ $11.0$ $1$ $24$ $14.0$ $13.5$ $13.5$ $CL$ Soft, brown-gray, mottled lean CLAY (CL) with frequent grap mps $0.42$ mm, no odor, wet $1$ $124$ $18.0$ $13.5$ $CL$ Very soft, dark gray, lean CLAY (CL) with occasional black organics, trace shells, mps $0.42$ mm, no odor $1$ $1$ $10$						nps 2.0					30	70								
W	ОН			11.0	ML				th organic	cs, trace shells, 1	nps 2.0					30	70				
1	1 1	$S_{1}$ $S_{2}$ $S_{3}$ $4.4$ $ML$ Medium stiff, dark gray-brown SILT with sa organics, mps 1.0 in., no odor, wet $S_{1}$ $S_{4}$ $ML$ Medium stiff, dark gray-brown, SILT with sa organics, mps 1.0 in., no odor, wet $S_{1}$ $S_{2}$ $S_{4}$ $ML$ Medium stiff, dark gray-brown, SILT with sa organics, mps 1.0 in., no odor, wet $S_{1}$ $S_{2}$ $S_{3}$ $ML$ MLSoft, dark gray-brown, sandy SILT (ML) with mm, no odor, wet $S_{1}$ $S_{2}$ $S_{2}$ $ML$ Soft, dark gray-brown, sandy SILT (ML) with mm, no odor, wet $ML$ $Soft, dark gray-brown, sandy SILT (ML) withmm, no odor, wetMLSoft, dark gray-brown, sandy SILT (ML) withmm, no odor, wetMLSoft, dark gray-brown, sandy SILT (ML) withmm, no odor, wetSoft, dark gray, brown, sandy SILT (ML) withmm, no odor, wetMLSoft, dark gray-brown, sandy SILT (ML) withmm, no odor, wetSoft, dark gray, mottled lean CLAY (CL)layersMLSoft, dark gray, lean CLAY (CL) withmps 0.42 mm, no odor, wetMRINE DEPO$							uent gray fine sa	nd					15	85					
				13.5		+											-+		-+		ŀ
15 - WC	OH 1				CL	-		no odor, wet	1	gray fine sand la	yers,					15	85				
1	1 1				CL					l fine sand layer	s,					10	90				
1 WC	1 OH 1				CL				black org	anics, trace shel	ls, mps						100				
	OH			20.0		Botte	om of Expl	loration 20.0 ft - No Refusal													
								I													
						h (ft)	to:				Over	201					0.0				-
Date	•	St.         8.0         ML         Soft, dark gray-brown, sandy SILT (ML) with organics, trace shells, mps 2.0         30         70           S6         10.0         11.0         11.0         ML         Soft, dark gray-brown, sandy SILT (ML) with organics, trace shells, mps 2.0         30         70           S7         12.0         11.0         ML         Soft, dark gray-brown, sandy SILT (ML) with organics, trace shells, mps 2.0         30         70           S8         14.0         13.5         CL         Very soft, dark gray, lean CLAY (CL) with frequent gray fine sand layers, mps 0.42 mm, no odor, wet         15         85           H         29         16.0         CL         Very soft, dark gray, lean CLAY (CL) with frequent gray fine sand layers, mps 0.42 mm, no odor, wet         15         85           H         29.0         18.0         CL         Very soft, dark gray, lean CLAY (CL) with black organics, trace shells, mps         10         90           H         20.0         CL         Very soft, dark gray, lean CLAY (CL) with black organics, trace shells, mps         100         90           H         24         18.0         CL         Very soft, dark gray, lean CLAY (CL) with black organics, trace shells, mps         100         90           H         24         20.0         CL         Very soft, dark gray, lean CLAY (C																			
1/31/1	15																				
								C - Rock Core Sample		Concrete Bentonite Seal							HA	.13-	.3		
				Dilatano	<b>y</b> : R -	Rapid	S - Slow	N - None Plasti	citv: N-	Nonplastic L - L	ow M-N		Jm	Н-	High						

Pro	ject	Propo	osed ]		ements									-			00			
Project Client																				
	Contractor         Northern Test Boring         Start         January 31, 2013           Type         HSA         S																			
Project Client City of Portland Contractor         Project Fig. 100         Project Client City of Portland City of Po																				
	£	ows	Чо.	a €	(			VISU	AL-MANUAL IDENTIFICATIO	N AND DESCRIPTION			1		-	d		F		Те
epth (1	Casing         Sampler         Barrel         Drilling Equipment and Proc Bit Type:           pe         HSA         S						,	carse	ine	coarse	Aedium	ine	ines	tancy	ghnes	sticity	•			
						ETATION)		%	% ₽	%	N %	% ⊢	% F	Dila	Tou	Pla				
Upper         Casing is Sampler         Barrel         Daling Equipment and Proceedures         Driffer         M. Nadeau           Type         HISA         S         -         Rig Males & Mode: Listrics D30         HiSA Rep. M. Show         Elevation 0.0 (approx.)           Hammer Fail (in.)         -         100         -         300         -         Hold Net Note: 1.000         Elevation 0.0 (approx.)           Egg Science         Science         Science         -         Right Science         Automatic fammer         -         Elevation 0.0 (approx.)           Hammer Fail (in.)         -         30         -         Hold Science         -         Automatic fammer         -         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         -         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         -         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         Elevation 0.0 (approx.)         -         Elevation 0.0 (approx.)         -         Elevation 0.0 (approx.)																				
	City of Portland ontractor         Casing       Sampler       Barrel       Drilling Equipment and Proce Bit Type: Curting Head Drill Mud: None         Rig Make & Model: Diedrich DSO Bit Type: Curting Head Drill Mud: None         ammer Fall (in.)				, when graver (Swy), Ill	,5 1.0														
Client         Clip of Portland         Set No         Shart         Shar         Shar         Shart				20	20	10														
5 -	6 5 5			-	SM				th gravel (SM), mps 2.0	in., no	15	15	10	25	20	15				
	3			_		+						+-	+-	+-	<u> </u>					
	5 3				ML/S	M Loos odor	e, dark bro wet, 50%	of sample is brick	y SAND (SM), mps 1.0 i	n., no										
Contractor         Northern Test Boring         Start         January 31, 2013           Type         HSA         S         -         Bit Type: Cutting Head         Diffing Equipment and Procedures         Diffier         M. Nakeau           Type         HSA         S         -         Bit Type: Cutting Head         Bit Type: Cutting Head         Hammer Fail (n.)         -         Allowed Head         Diffier         M. Nakeau           Hammer Fail (n.)         -         140         -         Casing: HSA sput to 18.0 ft         Diffier         M. Nakeau           Egg Bar Bar Street (S)         Bar Street (S)         -         Automatic Hammer Fail (n.)         -         Diffier         M. Nakeau           Hammer Fail (n.)         -         10         1         S         -         Diffier         M. Nakeau           10         1         S         0.3         SW         Vey scene (horsen), hown, well-graded SAND with gravel (SW), mps 2.0         10         20         20         20         10         13         31         5         10         13         31         5         10         13         13         15         10         12         20         20         10         10         12         20         20         10																				
10 -				9.5	ML				with organics, trace shells	s, wood					15	85				
	1				ML	Very	soft, dark	brown, sandy SILT to SILT	(ML) with organics, shell	s, mps										
	1				ML					42 mm,					5	90				
				13.3	CL	Very	soft, brov			odor,						100				-
15 -	2					wet		-MARINE DEPO	DSIT-											
	WOH WOH WOH			)	CL	odor. Very	wet soft, dark	gray, lean CLAY (CL) with	black organics, mps 0.07.										-	_
	WOH WOH WOH				CL	-				5 mm,						100				
20 -				20.0	)	Botto	m of Expl	oration 20.0 ft - No Refusal												-
								1	1	1										_
						th (ft) f	:0:		Riser Pipe	0	b									-
D	ate	Time		o (hr 1 E	Bottom	Bottom	Water		Screen				•	,						
1/3	1/13	12:55							Cuttings				. ("			5.0				
									Concrete	Bori	ng	No	р.		]	HA	13	-4		
Field	d Tests	:						N - None Plasti	city: N - Nonplastic L - L	ow M-N	ledi	um	Н-	Hig	h					-

H A		EY& RICI	Σ Η			•	TEST	BORING REPO	RT		B	ori	ng	No	<b>)</b> .		HA	.13	-5
Clie	ject ent ntracto	City of	of Po	rtland	ement Boring		nerset Str	eet, Portland, Maine			Sł St	art	Nc	). 1 Ja	of anua	ary	31,		
				Casin	g Sa	mpler	Barrel	Drilling Equipmer	t and Procedures			nish Tiller				ary Jade		201	.3
Тур	е			HSA		S		Rig Make & Model: Die	drich D50		Н	SA I	Rep	). N	1. S	nov	V		
Insid	de Dia	meter	(in.)	2.5	1	.375		Bit Type: Cutting Head Drill Mud: None				eva atun				(apj and			atu
Han	nmer V	Veight	(lb)			140	-	Casing: HSA Spun to 1 Hoist/Hammer: / Auto			-				e P			,	
Han		all (in	.)			30	-	PID Make & Model: N/.											
(H	lows.'	No.	e (II	) o	Symbol	5	VISU	JAL-MANUAL IDENTIFICATIO	N AND DESCRIPTION			avel	-	San	d			eld g	Те
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change	Elev/Dept	6	(Density	//consistency, color, GROUP I structure, odor, moisture, opt GEOLOGIC INTERPR	ional descriptions	* ,	% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
0 -	0)				.2 S			-BITUMINOUS COM	NCRETE-	/					25		_	-	_
	24 29 39 30	S1 20	0.5 2.5		.2	Ver	y dense, br r, dry	own, well-graded SAND with	gravel (SW), mps 1.0 in	., no						-			
	10 10 7	S2 12	2.5 4.5		SI		lium dense no odor, m	, silty SAND with gravel (SM noist -FILL-	), with brick fragments, 1	nps 1.0	10	10	20	25	20	15			
5 -	3 3 3 3	\$3 12	4.5 6.5	_	SV SN		ose, brown to dark brown, well-graded SAND with gravel (SW-SM) with od (2 in.), decomposed brick, ash, mps 1.0 in., no odor, moist to wet							30	20	10			
	14 3 3 5	S4 14	6.5 8.5	_	SV			wn-black, silty SAND with gr o odor, wet	avel (SW), decomposed I	orick,		20	25	25	20	15			
	5 4 3	S5 18	8.5 10.5		sv	mps	oose, dark brown-black, silty SAND with gravel (SW), decomposed brick, 10 in., no odor, wet					20	25	25	20				
10 -	2 3			9	.5 M			dark brown-black, SILT (ML) a, no odor, wet	with organics, shell frag	ments,						100			
	2 1 2	S6 16	10.5 12.0		M		, black, sai dor, wet	ndy SILT (ML) with organics, -HARBOR BOTTOM		l2 mm,					30	70			
	1 1 2 4	\$7 24	12.0 14.0		M		, black to c , no odor, y	dark gray, sandy SILT (ML) wwet	vith organics, shells, mps	0.42									
15 -	2 2 2 2	\$8 22	14.0 16.0		.0 C	L Soft	, gray, leai	n CLAY (CL), mps 0.075 mm	, no odor, wet							100			
	2 WOH 1 1	S9 24	16.0 18.0		C	L Ver	y soft, gray	y, lean CLAY (CL), mps 0.42							5	95			
	1 WOH WOH 1	\$10 24	18.0 20.0		C	L Ver	y soft, gray	, lean CLAY (CL), mps 0.07								100			
20 -	1			20	.0	Bott	om of Exp	loration 20.0 ft - No Refusal											
				<u> </u>				1		1		 							
				evel D		pth (ft)	to:	Sample ID O - Open End Rod	Well Diagram	0.107	hur			<u>nma</u>					
D	ate	Time		$\frac{1}{2}$ (hr $\frac{1}{2}$	Bottom of Casin	Bottor			Screen Filter Sand	Over Rock			•	<i>.</i>		20.0 0.0			
1/3	1/13	14:00		0	Caved			U - Undisturbed Sample S - Split Spoon Sample C - Rock Core Sample	Cuttings Grout Concrete	Sam Bori	ples	8		10	)S	HA		-5	
Eiz!	d <b>T</b> act			Dilat	ancur	P_ Papid	S - Slow		Bentonite Sea					Hiat					
rielo	d Tests			Toug		L - Low	S - Slow M - Mediu	N - None Plasti m H - High Dry Si	trength: N - Nonplastic L - L	w M-Me	diur	n H	на - I - Н	igh	'v - '	Very	Hig	n	

		EY& RICI						BORING REPOR	रा			ori						13-	-0
Clie	ject ent ntracto	City of	of Po	Improve rtland n Test E		to Son	nerset Str	eet, Portland, Maine			Sh Sta	e N neet art	No	). 1 Ja	of	ary :	31,	201	
				Casing	San	npler	Barrel	Drilling Equipmen	t and Procedures			nish iller				ary . Jade		201	3
Тур	е			HSA		s		Rig Make & Model: Died	lrich D50		Hð	sa f	Rep	). N	1. S	now	V		
Insid	de Dia	meter	(in.)	2.5	1.3	375		Bit Type: Cutting Head Drill Mud: None								(apj			
Han	nmer V	Veight	(lb)			40	_	Casing: HSA Spun to 13	8.0 ft	H		atun ocati			ortla		Cit	y Da	atu
Han	nmer F	all (in	.)		3	0	-	Hoist/Hammer: / Auto PID Make & Model: N/A						~ .					
~	N	oʻ ↔			Ê		VISI	JAL-MANUAL IDENTIFICATIO			Gra	avel	:	San	d		Fi	eld 1	Те
h T	r Blo	e N i.	h (ft	nge	Symbol						-se		se	ium		s	cy	less	₹
Depth (ft)	Sampler Blows per 6 in.	Sample No. & Rec. (in.)	Sample Depth (ft)	Stratum Change				/consistency, color, GROUP N structure, odor, moisture, opti GEOLOGIC INTERPR	ional descriptions		% Coarse	% Fine	% Coarse	% Medium	% Fine	% Fines	Dilatancy	Toughness	Plasticity
0 -				0.3			1 (6	-BITUMINOUS CON			10	10	20	30	25	5			-
	16 30 48 21	S1 18	0.5 2.5				ery dense (frozen), brown, well-graded SAND with gravel (SW), mps 1.0 ., no odor, dry												
	12 15 15	S2 18	2.5 4.5		SW- SM		se, brown, , frozen to	well-graded SAND with grave moist -FILL-	el (SW-SM), mps 2.0 in., r	10	10	15	20	25	20	10			
5 -	12 6 21 16	S3 14	4.5 6.5		SM	Dens	ense, brown-gray, silty SAND (SM), mps 0.5 in., no odor, moist						10	35	35	15			
	5 1 1 2	S4 12	6.5 8.5		SM		se, dark gra , wet	ay-brown, silty SAND with gr	ravel (SM), mps 1.0 in., no		5	15	5	30	30	15			
	3 1 2	\$5 10	8.5 10.0		5 ML		Soft, dark gray-black, sandy SILT (ML) with organics, shells, mps 0.42 mm, light organic odor, wet								30	70			
10 -	2 1 2 2	S6 14	10.0 12.0		ML		oft, dark gray-black, sandy SILT (ML) with organics, shells, mps 1.5 in. (1 ravel piece), slight organic odor, wet -HARBOR BOTTOM DEPOSIT-								30	70			
	3 2 1 2	S7 18	12.0 14.0		ML	Soft,	dark gray	brown, SILT (ML), with she	lls, mps 0.42 mm, no odor	, wet					30	70			
15 -	3 5 4 5 7	S8 14	14.0 16.0		CL		ium stiff, t , wet	brown-gray, mottled lean CLA	Y (CL), mps 0.075 mm, n	0						100			
	1	<b>S</b> 9	16.0			L		MARINE DEPC				L.	L.	L.					
	2	23	18.0	16.5	<sup>5</sup> $\left\lceil \overline{\text{CL}} \right\rceil$	Soft.	dark gray	, lean CLAY (CL), mps 0.075	5 mm, no odor, wet	Ι						100			
	2 WOH 1 1	\$10 24	18.0 20.0		CL	Very	v soft, dark	-MARINE DEPC gray, lean CLAY (CL), mps								100			
20 -	1			20.0		Botte	om of Expl	loration 20.0 ft - No Refusal											
		Wa		evel Da				Sample ID	Well Diagram			S	Sun	ıma	ry				
D	ate	Time			Bottom	th (ft) Bottom	Wator	O - Open End Rod T - Thin Wall Tube	Riser Pipe	Overb			•	·		20.0			
1.12	1/12	15.15			Casing	of Hole		U - Undisturbed Sample	Filter Sand	Rock			(fl	<i>.</i>		0.0			
1/3	51/13	15:15		0	Caved	1.25		S - Split Spoon Sample C - Rock Core Sample	Grout Grout Bentonite Seal	Samp Borir			<b>)</b> .	10		HA	.13	-6	
Field	d Tests	:					S - Slow	N - None Plastic	city: N - Nonplastic L - Lov	V M - M	edi	um	H -	High	۱ ۱	Vor	ا ال		
*No	te: Ma	ximum	partic					m H - High Dry St servation within the limitation	rength: N - None L - Low ns of sampler size.	IVI - IVIEC	nun	<u>II H</u>	- H	ign	v -	very	пıg	1	

#### **APPENDIX B**

**Observation Well Installation and Groundwater Monitoring Reports** 

2006 Observation Well Installation and Groundwater Monitoring Reports for Proposed Bayside Parking Garage (see Reference 2)

HALEY &	(	OBSEF	<b>RVATION W</b>	'ELL		Well No.
ALDRICH		ISTAL	LATION RE	PORT	ľ	Boring No.
DDO TROT	d				0 22520	HA06-2(OW)
PROJECT LOCATION	Proposed Bayside Park Portland, Maine	ing Garage & N	laster Planning	H&A FILE N PROJECT M		adbourne
CLIENT	Scott Simons Architect	S		FIELD REP.	B. Stei	
CONTRACTOR	Maine Test Borings, In			DATE INSTA		
DRILLER	P. Hatch			WATER LEV	/EL	11.11.11.11.11.11.11.11.11.11.11.11.11.
Ground El.	9.0 +/- ft I	Location See	Plan		🕢 Guard Pip	e
El. Datum 🔤	Portland City				Roadway )	Box
SOIL/ROCK	BOREHOLE		Type of protective co	ver/lock	Steel La	ock / Cap
CONDITIONS	BACKFILL			_		
0.0	0.0		Height of top of guar			<u> </u>
			above ground surface	1.		
	BENTONITE					
FILL	CHIPS	T I I I	Height of top of riser			3.4 ft
			above ground surface	9		
	3.0		← Type of protective cas	sing:	Steel G	uardpipe
			Length			ft
11.3	-		Inside Diameter			<u>3.25</u> in
HARBOR						
BOTTOM			Depth of bottom of gu	lard pipe/roadway	box	<u>    1.6    ft</u>
DEPOSIT						
15.0	-		<u> </u>		Top of Scal (ft)	<u>Thickness (ft)</u>
			· · · · · · · · · · · · · · · · · · ·	Concrete		
			<u></u>	entonite Seal	0.0	3.0
	FILTER			. <u></u>		·
	SAND					
LADING			Type of riser pipe:	-	Schedule	e 40 PVC
MARINE CLAY			Inside diameter of			<u>2.0</u> in
CLAT			Type of backfill ar	round riser	Filter Sand / E	Sentonite Chips
			Diameter of borehole			4.0 in
			Diameter of Dorenoie			in
		╊  ₽	Depth to top of well se	(Foon		5.0 ft
34.5			Depth to top of wen a			<u> </u>
			Type of screen		Slotted Sche	dule 40 PVC
			Screen gauge or si	ze of openings		0.010 in
		L2	Diameter of screer	· •		2.0 in
MARINE	15.0		Type of backfill arou	nd screen	Filter	Sand
SAND	BENTONITE			_		
	CHIPS					
	18.0		Depth of bottom of w	ell screen		15.0 ft
40.0	_					
WEATHERED BEDRO	CK FILTER SAND		Bottom of Silt trap			<u>15.0</u> ft
47.2	47.2	1 [	Depth of bottom of bo	orehole		ft
(Bottor	n of Exploration)			(Nt-1 + - C) 1 -		
(Numbers relet to de	pth from ground surface in feet)		c	(Not to Scale)	· - ·	
Riser	$\frac{8.4}{\text{Pay Length (L1)}} + $	10 Length of scre	$\frac{\text{ft}}{\text{cen (L2)}} + \frac{0}{\text{Length of si}}$	$\frac{\text{ft}}{\text{ilt trap (L3)}} = $	18.4 Pay leng	ft
COMMENTS:	<u>,</u>				I uy icite	,

ALDRICH	HIA	LEY	&
	AL	DRIO	CH

## GROUNDWATER MONITORING REPORT

OW/PZ NUMBER HAO6-2(OW)

			R	EPORT		Page	1 of 1
PROJECT	Propo	sed Bayside Pa	arking Garage & Master Plan		H&A FILE NO.	33538-000	<u> </u>
LOCATION		nd, Maine			– PROJECT MGR.	W. Chadbourne	
CLIENT	Scott S	Simons Archite	ects		FIELD REP.	B. Steinert	
CONTRACT	·	e Test Borings,			DATE	8/17/2006	
ELEVATIO	N SUBTRAH		.0 (Portland City Datum)	· · · · · · · · · · · · · · · · · · ·			
Date	Time	Elapsed Time (days)	Depth of Water from Ground Surface	Elevation of Water	Remar	ks	Read By
8/17/2006	12:30	0	-0.8	9.8	bailed out after reading (b	vailer)	bcs
8/17/2006	12:30	0	3.8	5.2			bcs
8/21/2006	14:10	4	2.7	6.3	bailed out after reading (w	vale pump)	bcs
8/21/2006	14:25	4	2.6	6.4			bcs
8/22/2006	16:45	5	2.7	6.3			bcs
8/23/2006	9:45	6	2.8	6.2			bcs
8/25/2006	9:20	8	2.9	6.1			bcs
8/28/2006	6:30	11	2.8	6.2			bcs
8/30/2006	7:00	13	2.7	6.3			bcs
8/31/2006	7:35	14	2.8	6.2			bcs
9/7/2006	7:40	21	2.7	6.3			bcs
9/8/2006	16:30	22	2.9	6.2	clear water surface in bail	er	mls
9/18/2006	7:20	32	3.1	5.9			bcs
						· · · · · · · · · · · · · · · · · · ·	1
					-		-
					-		
				······································			1
			·····				
				······································		<u>.</u>	
					-		
					<b>Val</b>		
					·····		
			AMMENIAL ALL ALL ALL ALL ALL ALL ALL ALL ALL	<b>1</b> • • • • • • • • • • • • • • • • • • •			

2008 Observation Well Installation and Groundwater Monitoring Reports for Proposed MaineHealth/United Way Development (see Reference 4)

HALEY&		<b>OBSERVA</b> '	<b>TION WELL</b>		Well No. HA08-5(OW)
ALDRICH		JOTATTAT	ION DEDODT	F	Boring No.
			ION REPORT		HA08-5(OW)
PROJECT	Maine Health/United	Way Development	H&A FILE PROJECT		udbourne
LOCATION CLIENT	Portland, Maine Maine Medical Center		FIELD RE		
CONTRACTOR	Maine Test Borings, I		DATE INS		
DRILLER	M. Porter		WATER L		
Ground El.	9.0 +/- ft	Location See Plan		Guard Pip	e
	Portland City			🗆 Roadway I	
SOIL/ROCK	BOREHOLE	rr	ype of protective cover/lock	Locke	d Cover
CONDITIONS	BACKFILL	-			
	BENTONITE		leight of top of guard pipe bove ground surface		<u>    3.0    ft</u>
FILL	3.0		leight of top of riser pipe bove ground surface		ft
			ype of protective casing:	Steel G	uard Pipe
			Length		5.0 ft
			Inside Diameter		3.0 in
	FILTER				
	SAND		)epth of bottom of guard pipe/roadw	yay box	ft
			Type of Seals	<u>Top of Seal (ft)</u>	<u>Thickness (ft)</u>
			Concrete		
10.5	_		Bentonite Seal	0.0	3.0
HARBOR		Li			
воттом					
DEPOSIT					
13.0		1	Type of riser pipe:	Schedul	e 40 PVC
	15.0		Inside diameter of riser pipe		<u> </u>
			Type of backfill around riser	Filter San	d/Bentonite
GLACIOMARINE	3				
DEPOSITS			Diameter of borehole		<u> </u>
	i i				
	DRILL		Depth to top of well screen		ft
	CUTTINGS				
		<b>       </b>	Sype of screen	Mach. Slotte	d Sch. 40 PVC
			Screen gauge or size of openings		0.010 in
		L2	Diameter of screen		2.0 in
53.0			Type of backfill around screen	Filte	r Sand
GLACIAL				- <u>-</u>	
TILL					
			Depth of bottom of well screen		<u>15.0</u> ft
63.8	_				
BEDROCK			Bottom of Silt trap		ft
65.5 —	65.5	↑ ↓ <u>↓</u> r	Depth of bottom of borehole		<u>65.5</u> ft
(Botto	m of Exploration)				
(Numbers refer to de	7.9 A +	10	(Not to Scale)		Δ.
Riser	$\frac{7.8  \text{ft}}{\text{Pay Length (L1)}} +$	10 f Length of screen (L2)	t + 0 ft Length of silt trap (L3)	= <u>17.8</u> Pay len;	ft
COMMENTS:		• <u>•</u> <u>•</u> <u>•</u> <u>•</u>			
I –					

ALDRICH	HALEY ALDRI	(&≂ CH
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## GROUNDWATER MONITORING REPORT

OW/PZ NUMBER HA08-5(OW)

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Page	1	of	1

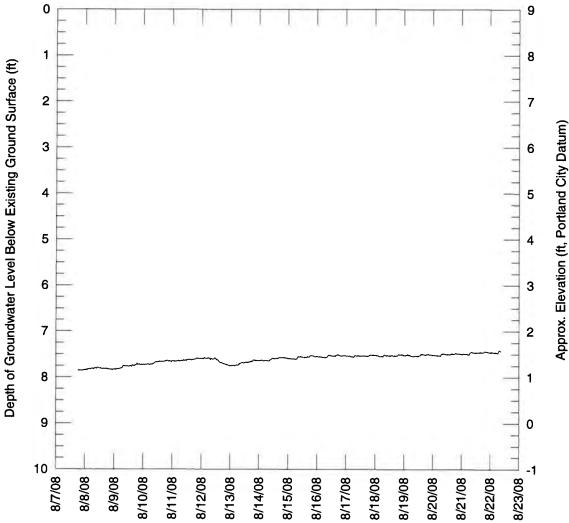
PROJECT	Maine Health/	United V	Vay Development		
LOCATION	Portland, Main	ne			·
CLIENT	Maine Medica	l Center			
CONTRACTOR	Maine Test Bo	orings, In	с.		
ELEVATION SUI	BTRAHEND	9.0	(Approximate)	)	

H&A FILE NO. PROJECT MGR. FIELD REP. DATE

Elapsed Depth of Water from Top Date Time **Elevation of Water Read By** Remarks of Riser Pipe Time (days) 8/4/2008 1200 0 7.3 4.5 GW level prior to well development OEL 8/4/2008 0 1240 9.5 2.3 GW level after well development OEL 8/7/2008 1805 7.9 3.9 3 GW level prior to level logger install. CLH 8/22/2008 1000 18 8.3 3.5 GW level after level logger removal CLH 10/20/2008 1200 0.9 GW level during TP-203 excavation 77 10.9 BCS 11/17/2008 1131 10.8 1.0 105 ECB 12/1/2008 10.7 1353 119 1.1 BCS

#### Results of Groundwater Monitoring Observation Well HA08-5(OW)

MaineHealth/UnitedWay Development Somerset and Chestnut Streets Portland, Maine Haley & Aldrich File No. 35611-000



HALEY&		OBSE	RVA	TION WELL		Well No. HA08-7(OW)
ALDRICH	Т		гт ал	ΓΙΛΝ ΒΕΒΛΒΤ	• ·	Boring No.
				<b><u>FION REPORT</u></b>		HA08-7(OW)
PROJECT	Maine Health/United	Way Develops	ment	H&A FIL PROJEC		-000 adbourne
LOCATION CLIENT	Portland, Maine Maine Medical Cente			PROJEC FIELD R		
	Maine Test Borings,			······	STALLED 7/31/2	
	M. Porter			WATER	LEVEL -	
Ground El.	12.0 +/- ft	Location S	See Plan		Guard Pi	De
El. Datum	Portland City				C Roadway	Box
SOIL/ROCK	BOREHOLE		[	-Type of protective cover/lock	Locke	ed Cover
CONDITIONS	BACKFILL	_				
FILL	BENTONITE		↓	Height of top of guard pipe box above ground surface		<u> </u>
				Height of top of riser pipe above ground surface		ft
12.5				Type of protective casing:	Steel G	uard Pipe
	FILTER			Length		5.0 ft
GLACIOMARINE DEPOSIT	SAND			Inside Diameter		<u> </u>
	15.0		<b> </b>	Depth of bottom of guard pipe/road	way box	ft
			, i	<u>Type of Seals</u>	<u>Top of Seal (ft)</u>	Thickness (ft)
38.0				Concrete		
				Bentonite Seal	0.0	3.0
				<u> </u>		
GLACIAL				Type of riser pipe:	Schedu	le 40 PVC
TILL	DRILL			Inside diameter of riser pipe		2.0 in
	CUTTINGS			Type of backfill around riser	Filter Sand/I	Bentonite
				Diameter of borehole		<u> </u>
				Depth to top of well screen		ft
60.1				- Type of screen	Mach. Slotte	ed Sch. 40 PVC
				Screen gauge or size of openings		0.010 in
		L2		Diameter of screen		in
				- Type of backfill around screen	Filter S	and
BEDROCK				- Depth of bottom of well screen		<u>    15.0    ft</u>
		L3		- Bottom of Silt trap		<u>15.0</u> ft
				- Depth of bottom of borehole		ft
	m of Exploration)			- (Not to Scale)		
(Numbers reter to de	7.8 ft +	10		ft + 0 ft	= 17.8	ft
Riser	Pay Length (L1)		screen (L2)	$\frac{11}{1} + \frac{1}{1}$ Length of silt trap (L3)	Pay ler	
COMMENTS:						

HALEY&
ALDRICH

# GROUNDWATER MONITORING

## **REPORT**

•	OW/PZ NUMBER	
]	HA08-7(OW)	

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			· -	÷.

			K	EPORT		Page	1 of 1
PROJECT			d Way Development		H&A FILE NO.	35611-000	
LOCATION		ortland, Maine			PROJECT MGR.	W. Chadbourne	
CLIENT		faine Medical Cen			FIELD REP.	O. Lawlor	
CONTRACT		faine Test Borings		· · · ·	DATE	8/4/2008	
ELEVATION	N SUBT		2.0 (Approximate)				
Date	Tim	e Elapsed Time (days)	Depth of Water from Top of Riser Pipe	Elevation of Water	Remark	s	Read By
8/4/2008	1115	5 0	10.3	4.5	GW level prior to well dev	elopment	OEL
8/4/2008	1140	) 0	12.3	2.5	GW level after well develo	pment	OEL
8/7/2008	1800	) 3	10.2	4.6	GW level prior to level log	ger install.	CLH
8/22/2008	950	18	10.1	4.7	GW level after level logge	r removal	CLH
10/20/2008	1200	) 77	10.2	4.6	GW level during TP-202 e	excavation	BCS
11/17/2008	1134	105	10.2	4.6			ЕСВ
12/1/2008	1354	119	9.8	5.0			BCS
				······································			
		7			1		
					<u> </u>		
						<u></u>	

#### Results of Groundwater Monitoring Observation Well HA08-7(OW)

MaineHealth/UnitedWay Development Somerset and Chestnut Streets Portland, Maine Haley & Aldrich File No. 35611-000 0 12 1 11 \_ 10 2 \_ Approx. Elevation (ft, Portland City Datum) 3 9 \_ 8 4 \_ 7 5 \_ 6 6 \_ \_ 7 5 8 4 9 3 2 10 8/7/08 8/6/08 8/23/08 8/8/08 8/10/08 8/11/08 8/12/08 8/13/08 8/14/08 8/15/08 8/16/08 8/18/08 8/19/08 8/20/08 8/21/08 8/22/08 8/17/08

Depth of Groundwater Level Below Existing Ground Surface (ft)

HALEY&		OBSEF	<b>VAT</b>	ION	WELL			Well No. HA08-12(OW	$\overline{)}$
ALUNICH	יד	VSTAL		ON F	REPORT	<b>ר</b>		Boring No.	
PROJECT	Maine Health/United				H&A FIL	_	35611-00	HA08-12(OW	
LOCATION	Portland, Maine	Way Developme.			PROJEC		W. Chad		
CLIENT	Maine Medical Center				FIELD R		O. Lawlo		
CONTRACTOR	Maine Test Borings, I	Inc.				STALLED	7/24/200	18	
DRILLER	M. Porter				WATER				
Ground El El. Datum	11.0 +/- ft Portland City	Location See	e Plan				uard Pipe badway Bo		
SOIL/ROCK	BOREHOLE		Туре	e of protecti	ive cover/lock		Locked	Cover	_
CONDITIONS	BACKFILL								
	BENTONITE			ght of top of ve ground su				3.0	_ft
			-	ght of top of ve ground su				2.75	ft
			тура	e of protecti	ve casing:		Steel Gua	ard Pipe	
				ength		· · ·		5.0	- ft
FILL				nside Diame	eter			3.0	in
			Dept	th of bottom	1 of guard pipe/road	lway box		2.0	ft
			6 6 6 8 8 8 8		<u>Type of Seals</u> Concrete	<u>Top of S</u>	<u>eal (ft)</u>	<u>Thickness (ft)</u>	
					Bentonite Seal		<u></u>	3.0	-
			5 8 8 8		Demonite Sout		<u>,                                    </u>		•
						•			•
11.6									•
			<b>— —</b> Туре	e of riser pij	pe:		Schedule	40 PVC	
	FILTER				eter of riser pipe			2.0	in
HARBOR	SAND		1		cfill around riser	F	ilter Sand/	Bentonite	•
воттом				•-					-
DEPOSIT			Dian	neter of bor	ehole			3.0	in
			<b>••••</b>						•
			Dept	th to top of v	well screen			4.0	ft
14.0			Type	e of screen		Mac	h. Slotted	Sch. 40 PVC	
					e or size of openings			0.010	_ _in
		L2	1	Diameter of				2.0	_ _in
			└ <u></u> Туре	e of backfill	around screen		Filter S	Sand	-
GLACIOMARINE									-
DEPOSIT			Dept	th of bottom	ı of well screen			14.0	ft
		L3	, ⊢ <mark>↓</mark> Bott	om of Silt tr	180			14.0	ft
			1		n of borehole			16.0	- ft
	m of Exploration)								•
	epth from ground surface in feet)				(Not to Scale)	· · · · ·			
Riser	6.75 ft Pay Length (L1) +	10 Length of scr	ft + reen (L2)		0 ft h of silt trap (L3)	=	16.75 Pay length	<u>ft</u> h	
COMMENTS:									

HALEY& ALDRICH
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### **GROUNDWATER MONITORING** REPORT

**OW/PZ NUMBER** 

HA	08-1	2(OV	<b>N</b> )
Page	1	of	1

of 1

Page

35611-000

O. Lawlor 8/4/2008

W. Chadbourne

	LIUNI						
PROJECT	1	Maine Health/United	l Way Development		H&A FILE NO.		
LOCATION		Portland, Maine			PROJECT MGR.		
CLIENT	1	Maine Medical Cent	FIELD REP.				
CONTRACTOR		Maine Test Borings,	- DATE				
ELEVATIO	N SUBT	RAHEND 11	.0 (Approximate)		-		
Date	Tin	e Elapsed Time (davs)	Depth of Water from Top of Riser Pipe	Elevation of Water	Rem		

ELEVATION	SUBTRAH		.0 (Approximate)						
Date	Time	Elapsed Time (days)	Depth of Water from Top of Riser Pipe	Elevation of Water	Remarks	Read By			
8/4/2008	1030	0	8.9	4.9	GW level prior to well development	OEL			
8/4/2008	1100	0	9.0	4.8	GW level after well development	OEL			
8/7/2008	1745	3	8.6	5.2	GW level prior to level logger install.	CLH			
8/22/2008	945	18	8.4	5.4	GW level after level logger removal	CLH			
10/20/2008	1200	77	8.7	5.1	GW level during TP-201 excavation	BCS			
11/17/2008	1137	105	8.5	5.3		ECB			
12/1/2008	1358	119	8.0	5.8		BCS			
				-					
Ì									
						_			
		· · · · · · · · · · · · · · · · · · ·				<u> </u>			
					· · · · · · · · · · · · · · · · · · ·				

## Results of Groundwater Monitoring Observation Well HA08-12(OW)

MaineHealth/UnitedWay Development Somerset and Chestnut Streets Portland, Maine Haley & Aldrich File No. 35611-000 0 11 10 1 \_ 9 2 \_ 3 8 \_ 7 4 \_ 5 6 5 6 \_ 7 4 8 3 9 2 \_ 10 1 8/7/08 8/8/08 8/6/08 8/23/08 8/10/08 8/11/08 8/12/08 8/13/08 8/14/08 8/15/08 8/16/08 8/17/08 8/18/08 8/19/08 8/20/08 8/21/08 8/22/08

Approx. Elevation (ft, Portland City Datum)



#### **APPENDIX C**

2008 Soil Screening Headspace Reports for Proposed MaineHealth/United Way Development (see Reference 4)

HALEY ALDRI	/ & <del>.</del> CH	HE	CADSPA	DSPACE SCREENING REF							ge 1	of	5	
PROJECT	Ma	aineHealth	/ UnitedWay Devel	opment				H&A FILE NO.	35	611-000	8			
LOCATION	Po	rtland, Mai	ine	1				PROJECT MGH	R. W	W. Chadbourne				
CLIENT	Ma	aine Medic	al Center					FIELD REP	FIELD REP O.			. Lawlor		
INSTRUME		ermo 580E	3				DATE SAMPLE	23/2008	3/2008 - 7/24/2008					
DATE CAL	IBRATED	(1)	7/28/2008					DATE SCREEN	ED 7/2					
AMBIENT	<b>FEMPER</b>	ATURE	RT	CALIBR	ATED BY	ATED BY DAD		SCREENING L	ос. <u>н</u>	H&A Portland Lab				
Exploration	Sample Number	Depth (ft)	Sample Desc	ription	Sample Reading (ppm) <sup>(2)</sup>	Back- Ground Reading (ppm) <sup>(2)</sup>		Remarks	<b>GC</b> <sup>(3)</sup>	Drill Jar	Conta	iners		
HA08-3	S1	1.0-3.0	well graded gravel w	ith sand	0.9	0.0				Х				
HA08-3	S2	3.0-5.0	silty sand with ash &	cinders	1.2	0.0				х				
HA08-3	<b>S</b> 3	5.0-7.0	cinders, ash, brick, a	nd coal	2.8	0.0				Х				
HA08-3	<b>S</b> 4	7.0-9.0	poorly-graded gravel	cinders	1.5	0.0				Х				
HA08-3	S5	10.0-12.0	silty sand, cinders an	d ash	14.9	0.0				Х				
HA08-3	S6	12.0-14.0	silt with sand, shells,	organics	0.0	0.0				Х				
HA08-3	<b>S</b> 7	14.0-16.0	silt with sand, shells,	H2S odor	0.0	0.0				Х				
HA08-6	S1	0.0-2.0	silty sand			0.0				Х				
HA08-6	S2	2.0-4.0	silty sand, brick, cinders, wood		0.0	0.0	Tinfoil cove	r torn		Х				
HA08-6	<b>S</b> 3	4.0-6.0	silty to well graded s	and	0.0	0.0				Х				
HA08-6	<b>S</b> 4	6.0-8.0	poorly graded sand		0.0	0.0				Х				
HA08-6	S5	8.0-10.0	silty sand with grave		0.0	0.0				Х				
HA08-6	<b>S</b> 6	10.0-12.0	silty sand w/ gravel,	orick, shell	0.0	0.0				Х				
HA08-6	S7	12.0-14.0	sandy silt, shell fragr	nents	0.0	0.0				Х				
HA08-9	S1	0.0-2.0	silty gravel with sand	, org odor	0.0	0.0				Х				
HA08-9	S2	2.0-4.0	cinders and ash to sil	ty sand	0.0	0.0				Х				
HA08-9	<b>S</b> 3	4.0-6.0	silty sand		0.0	0.0				Х				
HA08-9	S4	6.0-8.0	silty sand with grave		0.0	0.0				Х				
HA08-9	S5	8.0-10.0	silty sand with grave		0.0	0.0				Х				
HA08-9	S6	10.0-12.0	silty sand, wood and	glass	0.0	0.0				Х				
HA08-9	<b>S</b> 7	12.0-14.0	silt, wood fragments,	org odor	0.0	0.0	Poor sample	recovery		Х				
HA08-9	S8	14.0-16.0	lean clay		0.0	0.0				Х				
HA08-12	S1	0.0-2.0	silty sand with grave	, cinders	0.0	0.0				Х				
HA08-12	S2	2.0-4.0	silty sand with grave	, cinders	0.0	0.0				Х				
HA08-12	S3		silty sand - poorly gra	aded sand	0.0	0.0				Х				
2. ppm repre	sents conce	entration of	nufacturer standard. f detectable volatile atograph screening.	gaseous com	pounds in	parts per n	nillion of air							
Sampleo	d and relin	quished b	y:	Received b	y:		Relinqu	ushed by:		Rece	ived by	:		
Sign: NA			Sign: NA			Sign:			Sign: N.					
Print: NA			Print: NA Firm: NA			Print: Firm:			Print: N					
Firm: NA		37.4			37.1	_			Firm: NA					
Date: NA	Tù	me: NA	Date: NA	Ti	me: NA	Date:	INA	Time: NA	Date: NA	A	Tim	ne: NA		

HALEY ALDRI	сн СН	HE	CADSPA	ACE	SCR	EEN	NING	G REPO	RT	Pa	ige 2	2 of	5
PROJECT	Ma	ineHealth	/ UnitedWay Deve	lopment				H&A FILE NO.	35	611-00	8	- 01	
LOCATION		rtland, Mai	-	1 1				PROJECT MGI		. Chadb			
CLIENT	Ma	ine Medic	al Center					FIELD REP	0.	Lawlor	•		
INSTRUME	NT The	ermo 580E	3					DATE SAMPLE	ED 7/2	23/2008	- 7/24/	2008	
DATE CAL	BRATED	(1)	7/28/2008	LAMP (e	eV)		10.6 <b>DATE SCREE</b>			28/2008			
AMBIENT 7	<b>EMPER</b>	TURE	RT	CALIBR	ATED BY	I	DAD	SCREENING L	ос. <u>н</u>	&A Port	tland La	ab	
Exploration	Sample Number	Depth (ft)	Sample Des	cription	Sample Reading (ppm) <sup>(2)</sup>	Back- Ground Reading (ppm) <sup>(2)</sup>		Remarks	GC <sup>(3)</sup>	Drill Jar	Conta	ainers	
HA08-12	<b>S</b> 4	6.0-8.0	poorly graded sand		0.0	0.0				Х			
HA08-12	S5	8.0-10.0	well graded sand		0.0	0.0				Х			
HA08-12	<b>S</b> 6	10.0-12.0	well graded sand		0.0	0.0				Х			
HA08-12	S7	12.0-14.0	no recovery, shells i	n wash	0.0	0.0				Х			
<ol> <li>2. ppm repres</li> <li>3. Sample as</li> </ol>	sents conce signed for	entration of gas chroma	hufacturer standard f detectable volatile atograph screening.		pounds in	parts per n							
Sampled	l and relin	quished b	y:	Received b	y:		Relinqu	ished by:		Rece	eived by	y:	
Sign: NA			Sign: NA			Sign:			Sign: N.				
Print: NA Firm: NA			Print: NA Firm: NA			Print: Firm:			<b>Print:</b> N. <b>Firm:</b> N.				
Date: NA	Tiı	ne: NA	Date: NA	Ti	me: NA	Date:			Date: N		Tiı	ne: NA	1

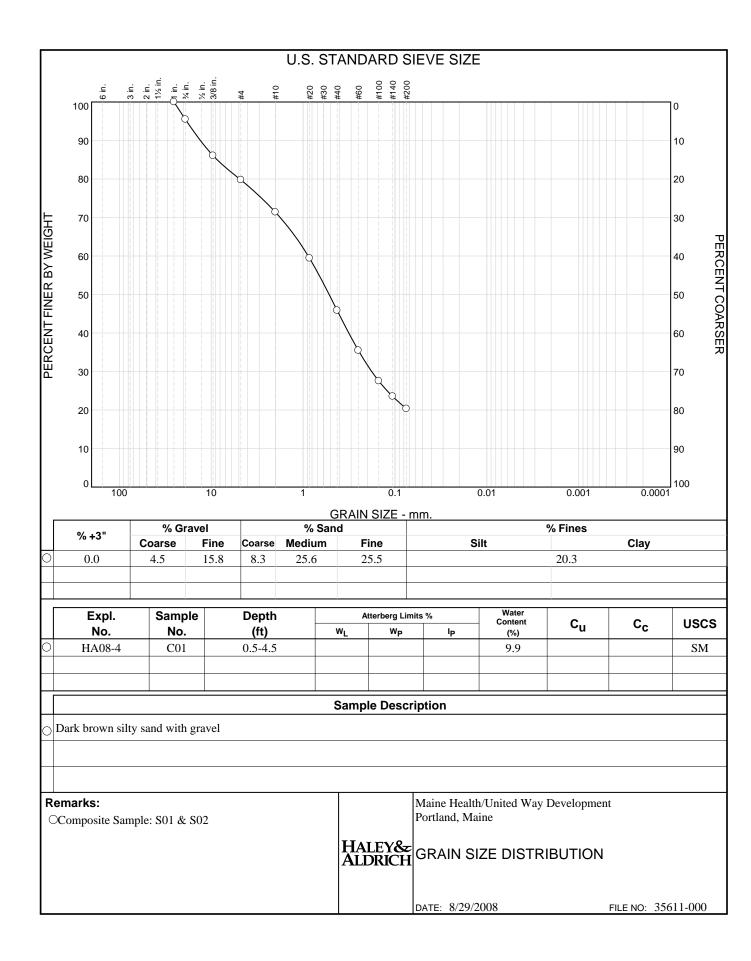
HALEY ALDRI	/ & <del>_</del> CH	HE	CAI	DSPA	CES	SCR	EEN	NINC	G REPO	RТ		age	3 of	5
PROJECT	Ma	aineHealth	/ Unite	dWay Develo	pment				H&A FILE NO.		35611-00	8	- 01	
LOCATION		rtland, Mai			1				PROJECT MG	R.	W. Chad	oourne		
CLIENT	Ma	aine Medic	al Cent	er					FIELD REP		O. Lawlo	r		
INSTRUME		ermo 580E	3						DATE SAMPLI	ED	7/28/200	8 - 7/29	/2008	
DATE CAL	IBRATED	(1)	7/3	0/2008	LAMP (e	V)		10.6	DATE SCREEN	IED	ED 7/30/2008			
AMBIENT 7	<b>FEMPER</b>	ATURE		RT	CALIBR	ATED BY	I	DAD	SCREENING L	GLOC. <u>H&amp;A Portland Lab</u>			ab	
Exploration	Sample Number	Depth (ft)	s	ample Descr	nple Description		Back- Ground Reading (ppm) <sup>(2)</sup>		Remarks	G	C <sup>(3)</sup> Drill Jar		ainers	
HA08-11	S1	0.0-2.0	sand w	/ brick, cinders	s & plastic	0.0	0.0				х			
HA08-11	S2	2.0-4.0	sand w	/ brick, cinders	s & plastic	5.0	0.0				х			
HA08-11	<b>S</b> 3	4.0-6.0	poorly	graded sand	-	12.3	0.0				Х			
HA08-11	S4	6.0-8.0	r i	aded sand		0.0	0.0				х			
HA08-11	S5			aded sand		0.0	0.0				X			
HA08-11	S6	10.0-12.0				0.0	0.0				X			
HA08-13	S1	0.0-2.0	Ŭ	graded sand, c	inders	0.0	0.0				X			
HA08-13	S2	2.0-4.0	î î	boorly graded sand, cinder&ash		0.0	0.0				х			
HA08-13	<b>S</b> 3	4.0-6.0	<u> </u>	poorly graded sand, cinder&ash		0.0	0.0				Х			
HA08-13	S4	6.0-8.0	well gr	aded gravel, w	ood&glass	0.0	0.0				Х			
HA08-13	S5	8.0-10.0	gravel,	wood and glas	s	0.0	0.0				Х			
HA08-13	S6	10.0-12.0	sandy s	ilt, wood, glas	s & shells	0.0	0.0				Х			
<ol> <li>Instrument</li> <li>ppm repre</li> <li>Sample as</li> </ol>	sents conce	entration of	f detecta	able volatile g	gaseous com	pounds in	parts per n	iillion of air						
Sampleo	l and relin	quished b	y:		Received b	y:		Relinqu	ushed by:		Rec	eived b	y:	
Sign: NA				Sign: NA			Sign:	NA		Sign:	NA			
Print: NA				Print: NA			Print:	NA		Print:	NA			
Firm: NA				Firm: NA			Firm:	NA		Firm:	NA			
Date: NA Time: NA				Date: NA	Ti	me: NA	Date:	NA	Time: NA Date: NA Time: NA					

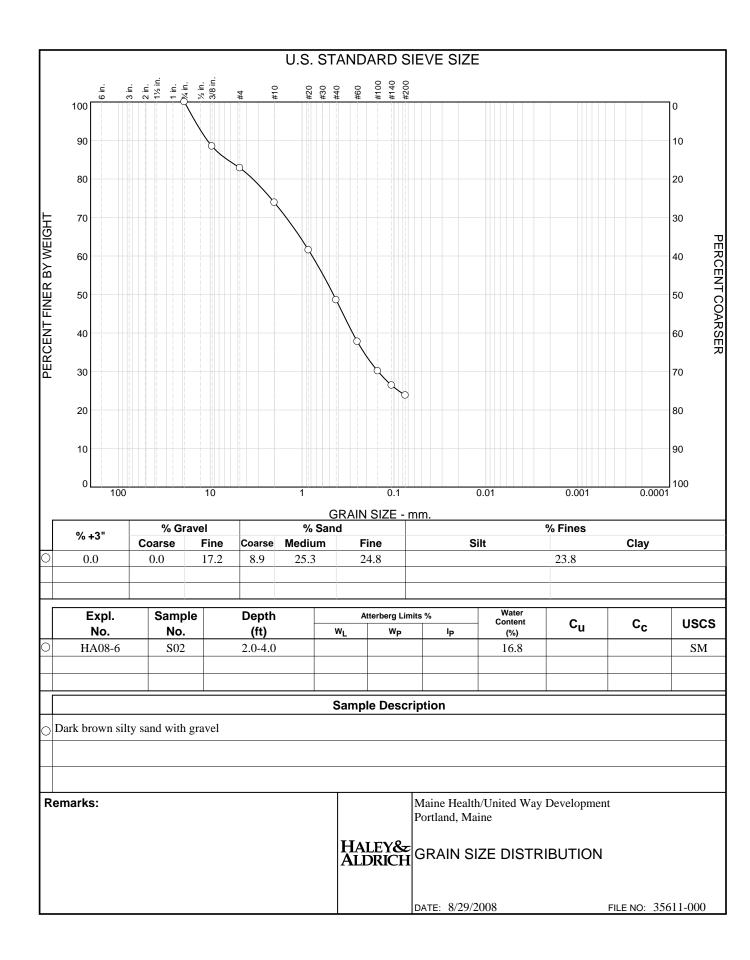
HALEY ALDRI	/ & <del>_</del> CH	HE	CADSI	PACES	SCR	EEN	IIN	G REPC	<b>DRT</b>	Pa	ige 4	4 of	5
PROJECT	Ma	aineHealth	/ UnitedWay I	Development				H&A FILE N	0. 3	5611-00	ě.		
LOCATION	Por	rtland, Mai	ne					PROJECT MO	GR. V	V. Chadb	ourne		
CLIENT	Ma	aine Medic	al Center					FIELD REP	C	). Lawlo	ſ		
INSTRUME		ermo 580B	8					DATE SAMP	LED $7$	/30/2008	8 - 8/4/2	008	
DATE CAL			7/30/2008	LAMP (e	V)		10.6	DATE SCREE	_	/6/2008			
AMBIENT 1	<b>TEMPER</b> A	ATURE	RT	CALIBR	ATED BY	I	DAD	SCREENING	LOC. I	I&A Por	tland La	ab	
Exploration	Sample Number	Depth (ft)	Sample	Description	Sample Reading (ppm) <sup>(2)</sup>	Back- Ground Reading (ppm) <sup>(2)</sup>		Remarks	GC <sup>(</sup>	3) Drill Jar	Cont	ainers	
HA08-4	<b>S</b> 1	0.5-2.5	sand with silt, o	inder and ash	69.0	0.0				х			
HA08-4	S2	2.5-4.5	sand with silt, o	inder and ash	55.0	0.0				Х			
HA08-4	<b>S</b> 3	5.0-7.0	silty sand, cind	er and ash	0.0	0.0				х			
HA08-4	S4	7.0-9.0	poorly graded s	and with wood	40.0	0.0				Х			
HA08-4	S5	9.0-11.0		od, glass, shells	0.0	0.0				х			
HA08-5	S1	0.0-2.0		and, cinder, ash	123.0	0.0				х			
HA08-5	S2	2.0-4.0		and, cinder, ash	114.0	0.0				х			
HA08-5	<b>S</b> 3	4.0-6.0		and, cinder, ash	6.0	0.0				х			
HA08-5	S4	6.0-8.0	poorly graded s	and, cinder, ash	4.2	0.0				х			
HA08-5	S5	8.0-10.0	silty sand, shell	and brick	2.5	0.0				х			
HA08-7	<b>S</b> 1	0.0-2.0	sand with silt, a	ish, brick, wood	9.4	0.0				Х			
HA08-7	S2	2.0-4.0	sand with silt, a	ish, brick	4.2	0.0				х			
HA08-7	<b>S</b> 3	4.0-6.0	silty sand, cind	er and ash	0.8	0.0				х			
HA08-7	S4	6.0-8.0	silty sand, cind	er and ash	0.8	0.0				х			
HA08-7	<b>S</b> 5	8.0-10.0	well graded sar	ıd	0.0	0.0				х			
HA08-7	S6	10.0-12.0	silty sand, trace	clay	0.0	0.0				х			
										_			
										_			
												$\mid$	
			nufacturer stan detectable vol	dard. atile gaseous com	pounds in	parts per m	illion of a	ir					
			atograph screen		r		u						
Sampleo	l and relin	quished b	y:	Received b	y:		Reling	uished by:		Reco	eived by	y:	
Sign: NA Sign: NA Sign: NA				NA		Sign: N	IA						
Print: NA			Print:			Print:			Print: N				
Firm: NA			Firm:			Firm:			Firm: N				
Date: NA	Tiı	me: NA	Date:	NA Ti	me: NA	Date:	NA	Time: NA	Date: N	A	Tiı	ne: NA	

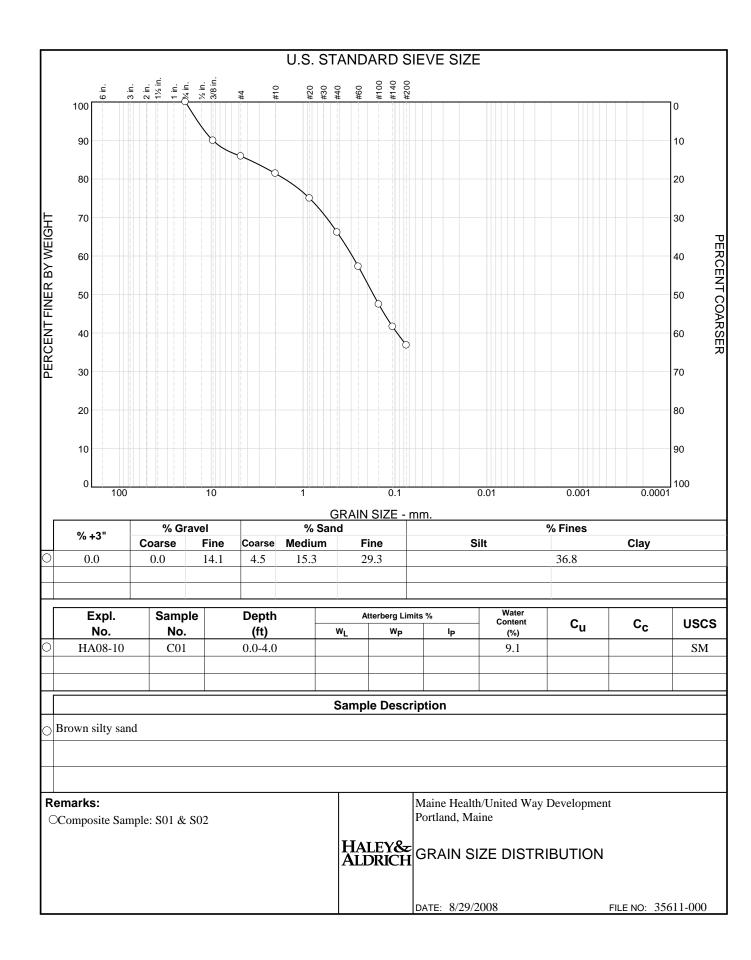
HALEY ALDRI	(& CH	HE	CAI	DSPACE	SCR	EEN	VIN	G REPO	RT		age	5 of	5	
PROJECT	Ma	aineHealth	/ Unite	dWay Development				H&A FILE NO	. 3	35611-00	0			
LOCATION	Po	rtland, Mai	ine	• •				PROJECT MG	R. 1	W. Chadb	ourne			
CLIENT	Ma	aine Medic	al Cent	er				FIELD REP	(	D. Lawlor	r			
INSTRUME		ermo 580E	3				DATE SAMP			LED 8/6/2008 - 8/13/200				
DATE CAL	IBRATED	(1)		LAMP (e	eV)		10.6	DATE SCREEN	NED 8	8/13/2008	3			
AMBIENT 1	<b>FEMPER</b>	ATURE		RT CALIBR	ATED BY	]	DAD	SCREENING L	ос. <u>н</u>	C. H&A Portland Lab				
Exploration	Sample Number	Depth (ft)	s	ample Description	Sample Reading (ppm) <sup>(2)</sup>	Back- Ground Reading (ppm) <sup>(2)</sup>		Remarks	GC	(3) Drill Jar	Cont	ainers		
HA08-8	S1	0.0-2.0	poorly	graded sand with gravel	0.0	0.0				Х				
HA08-8	S2	2.0-4.0	silty sa	nd with gravel	0.0	0.0				Х				
HA08-8	<b>S</b> 3	5.0-7.0	silty sa	nd with gravel	5.9	0.0				Х				
HA08-8	<b>S</b> 4	7.0-9.0	silty sa	nd with gravel	14.5	0.0				Х				
HA08-1	<b>S</b> 1	1.0-3.0	well gr	aded gravel, concrete	0.0	0.0				Х				
HA08-1	S2	3.0-5.0	silty sa	nd, concrete, ash	0.0	0.0				Х				
HA08-1	<b>S</b> 3	5.0-7.0	silty sa	nd	0.0	0.0	Tinfoil co	over torn		Х				
HA08-1	S4	7.0-9.0	silty sa	nd	0.0	0.0				Х				
HA08-1	S5	10.0-12.0	sandy o	organic soil, with shells	0.0	0.0				Х				
HA08-1	<b>S</b> 6	12.0-14.0	sandy o	organic soil, with shells	0.0	0.0	Tinfoil co	over torn		Х				
HA08-10	S1	0.0-2.0	sandy s	silt, brick	0.0	0.0				Х				
HA08-10	S2	2.0-4.0	silty sa	nd	0.0	0.0				Х				
HA08-10	<b>S</b> 3	4.0-6.0	silty sa	nd	0.0	0.0				х				
HA08-10	S4	6.0-8.0	silty sa	nd, wood w/ creosote	0.0	0.0				Х				
HA08-10	S5	8.0-10.0	sandy o	organic silt, brick, metal	0.0	0.0				х				
HA08-2	<b>S</b> 1	0.0-2.0	silty sa	nd, wood and ash	0.0	0.0				Х				
HA08-2	S2	4.0-6.0	poorly	graded sand	0.0	0.0				Х				
HA08-2	<b>S</b> 3	6.0-8.0	poorly	graded sand	0.0	0.0				Х				
HA08-2	S4	8.0-10.0	silty gr	avel, shells and wood	0.0	0.0				Х				
HA08-2	S5	10.0-12.0	poorly	graded gravel	0.0	0.0				Х				
										<u> </u>				
			ļ							<del> </del>		<b> </b>		
									_	<u> </u>				
<ol> <li>Instrument</li> <li>ppm repretion</li> <li>Sample as</li> </ol>	sents conce	entration of	f detect	able volatile gaseous con	npounds in p	parts per n	nillion of a	air.						
Sampleo	l and relin	iquished b	y:	Received b	y:		Relin	quished by:		Reco	eived b	y:		
Sign: NA Sign: NA				Sign:	NA		Sign: NA							
Print: NA				Print: NA		Print:	NA		Print: 1	٨A				
Firm: NA				Firm: NA		Firm:	NA		Firm: 1	٨A				
Date: NA	Ti	me: NA		Date: NA Ti	me: NA	Date:	NA	Time: NA	Date: 1	NA	Ti	me: NA	<u> </u>	

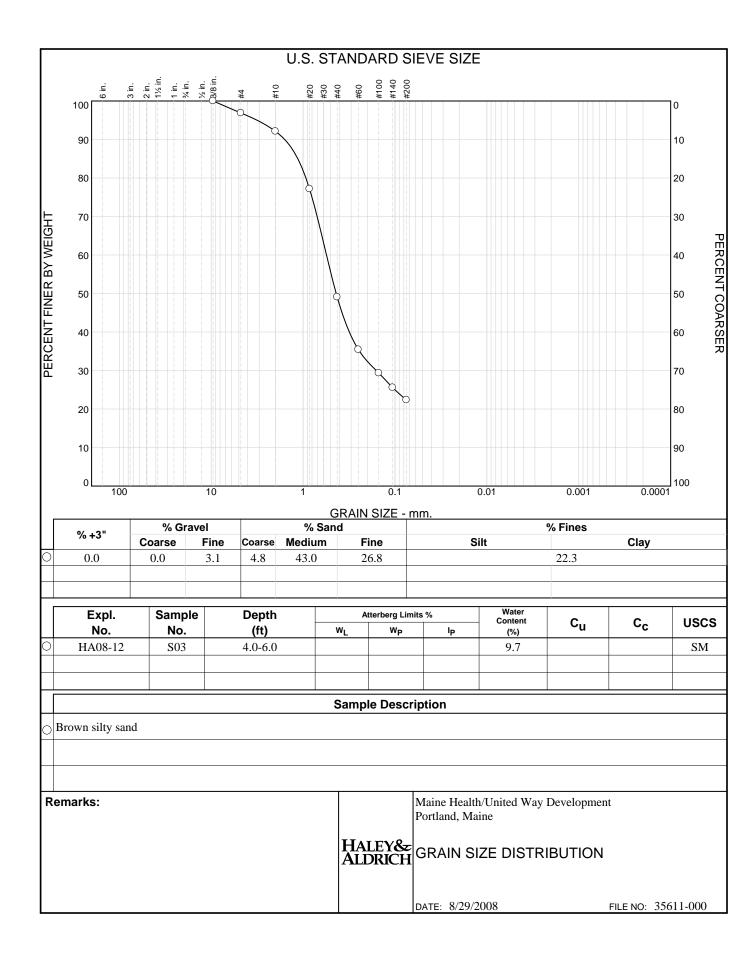
#### APPENDIX D

2008 Laboratory Test Results for Proposed MaineHealth/United Way Development (see Reference 4) **Grain Size Distribution Reports** 









Atterberg Limits and Natural Water Content Reports



Client:	Haley & Aldrich, Ir	ıc.			
Project:	Maine Health / Uni	ited Way Developme	nt		
Location:	Portland, ME			Project No:	GTX-8427
Boring ID:		Sample Type	:	Tested By:	ар
Sample ID	:	Test Date:	08/15/08	Checked By:	jdt
Depth :		Sample Id:		-	-

# Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
HA08-4	S-12	30-32 ft	Moist, olive gray clay	38.3
HA08-4	S-13	40-42 ft	Moist, olive gray clay	41.8
HA08-8	S-10	30-32 ft	Moist, olive gray clay	42.7
HA08-8	S-11	35-37 ft	Moist, olive gray clay	30.8

Notes: Temperature of Drying : 110° Celsius



Client: Haley & Aldrich, Inc. Project: Maine Health / United Way Development Location: Portland, ME Project No: GTX-8427 Boring ID: ---Sample Type: ---Tested By: ар Sample ID:---Test Date: 09/03/08 Checked By: jdt Depth : ---Sample Id: ---

#### Moisture Content of Soil - ASTM D 2216-05

Boring ID	Sample ID	Depth	Description	Moisture Content,%
HA08-4	U-2	33-35 ft	Moist, dark greenish gray clay	31.4
HA08-10	U-1	25-27 ft	Moist, gray clay	37.9

Notes: Temperature of Drying : 110° Celsius

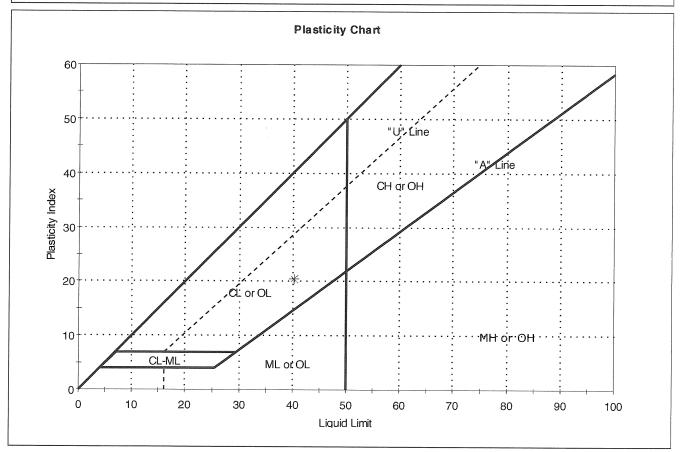


Client:	Haley & A	ldrich, Inc.				
	,	,				
Project:	Maine Hea	alth / United W	ay Developmer	nt		
Location:	Portland,	ME			Project No:	GTX-8427
Boring ID:	HA08-4		Sample Type	: jar	Tested By:	ар
Sample ID	:S-12		Test Date:	08/12/08	Checked By:	jdt
Depth :	30-32 ft		Test Id:	136560		
Test Comm	nent:					
Sample De	scription:	Moist, olive g	ray clay			

Sample Comment:

## Atterberg Limits - ASTM D 4318-05

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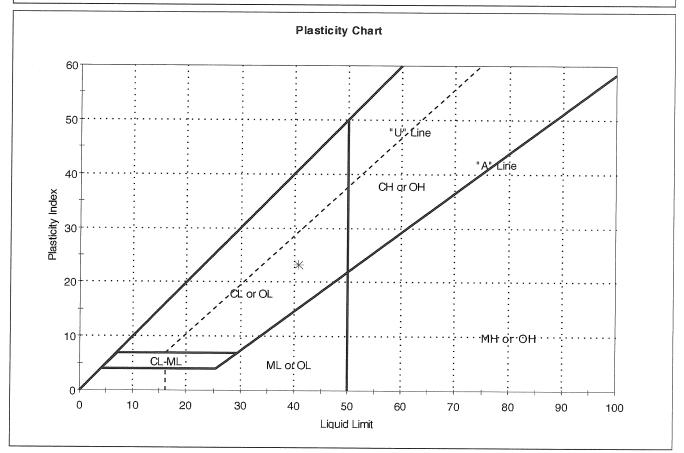
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-12	HA08-4	30-32 ft	38	40	20	20	1	

Sample Prepared using the WET method



Client:	Haley & A	ldrich, Inc.				
Project:	Maine Hea	alth / United W	ay Developmer	ht		
Location:	Portland,	ME			Project No:	GTX-8427
Boring ID: I	HA08-4		Sample Type	: tube	Tested By:	ар
Sample ID:	U-2		Test Date:	08/26/08	Checked By:	jdt
Depth : 3	33-35 ft		Test Id:	136851		
Test Comm	ent:					
Sample Des	scription:	Moist, dark gr	eenish gray cla	ау		
Sample Con	nment:					

## Atterberg Limits - ASTM D 4318-05



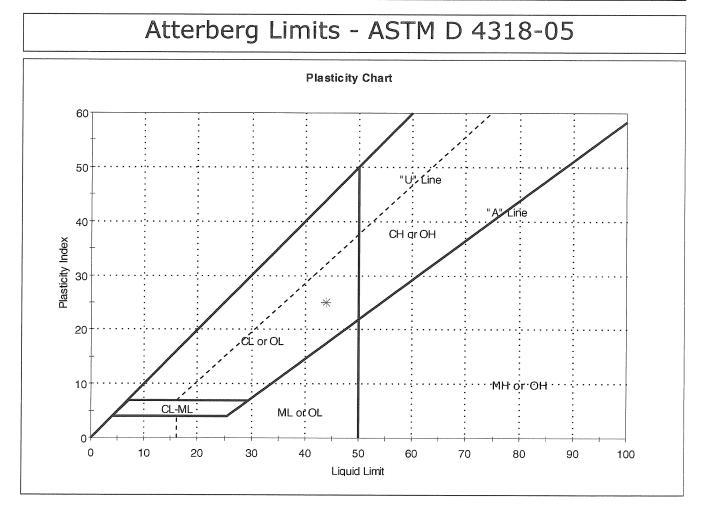
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	U-2	HA08-4	33-35 ft	31	41	17	24	1	

Sample Prepared using the WET method



a subsidiary of Geocomp Corporation

Client:	Haley & A	ldrich, Inc.		475		
Project:	Maine Hea					
Location:	Portland,	ME			Project No:	GTX-8427
Boring ID:	HA08-4		Sample Type	: jar	Tested By:	ар
Sample ID:	:S-13		Test Date:	08/13/08	Checked By:	jdt
Depth :	40-42 ft		Test Id:	136561		
Test Comm	nent:					
Sample De	scription:	Moist, olive g	ray clay			
Sample Cor	mment:					



Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-13	HA08-4	40-42 ft	42	44	19	25	1	

Sample Prepared using the WET method

GeoTesting express

a subsidiary of Geocomp Corporation

Client: H	Haley & Al	drich, Inc.							
Project: N	Maine Health / United Way Development								
Location: F	Portland, N	٩E			Project No:	GTX-8427			
Boring ID: H	IA08-8		Sample Type	: jar	Tested By:	ар			
Sample ID:S	5-10		Test Date:	08/12/08	Checked By:	jdt			
Depth: 3	0-32 ft		Test Id:	136562					
Test Comme	ent:				no on a second second second second second second second second second second second second second second secon				
Sample Desc	cription:	Moist, olive gr	ay clay						
Sample Com	iment:								

#### Atterberg Limits - ASTM D 4318-05 **Plasticity Chart** 60 50 "U" Line Line 40 CH or OH Plasticity Index 30 \* 20 OL or OL 10 ·MH or ·OH · CL-ML : ML of OL 0 10 0 20 30 40 50 60 70 80 100 90 Liquid Limit

Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-10	HA08-8	30-32 ft	43	46	23	23	1	

Sample Prepared using the WET method

Dry Strength: VERY HIGH Dilentancy: SLOW Toughness: LOW

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**GeoTesting** e x p r e s s a subsidiary of Geocomp Corporation

Client:	Haley & A	ldrich, Inc.			
Project:	Maine Hea	alth / United W	ay Developme	nt	
Location:	Portland,	ME			Project No:
Boring ID:	HA08-8		Sample Type	: jar	Tested By:
Sample ID	:S-11		Test Date:	08/13/08	Checked By:
Depth :	35-37 ft		Test Id:	136563	
Test Comn	nent:				
Sample De	escription:	Moist, olive g	ray clay		

GTX-8427

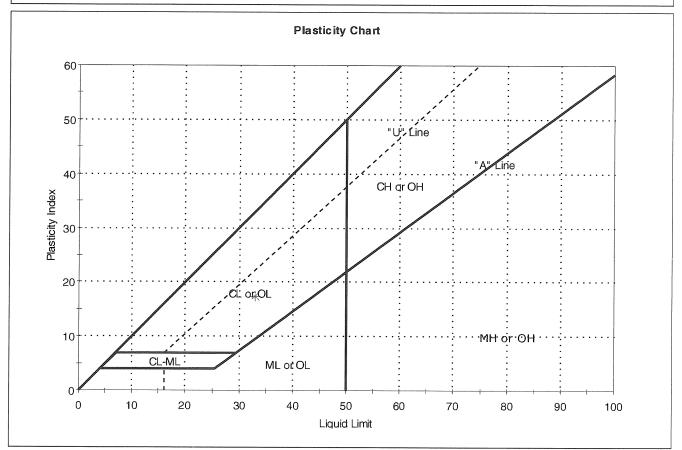
ар

jdt

Sample Comment:

## Atterberg Limits - ASTM D 4318-05

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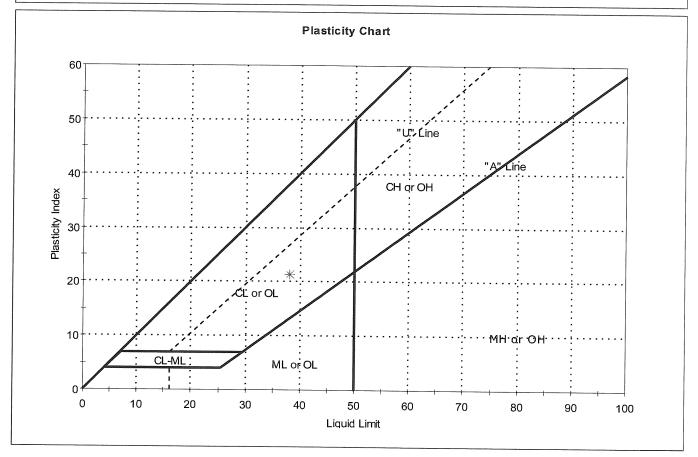
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soil Classification
*	S-11	HA08-8	35-37 ft	31	33	16	17	1	

Sample Prepared using the WET method



Client:	Haley & A	ldrich, Inc.				
Project:	Maine Hea	lth / United Wa				
Location:	Portland, I	МЕ	. ,		Project No:	GTX-8427
Boring ID:	HA08-10		Sample Type:	tube	Tested By:	ар
Sample ID:	:U-1		Test Date:	08/26/08	Checked By:	idt
Depth :	25-27 ft		Test Id:	136852	,	
Test Comm	ient:			· · · · · · · · · · · · · · · · · · ·		
Sample De	scription:	Moist, gray cla	iy			
Sample Co	mment:					

### Atterberg Limits - ASTM D 4318-05



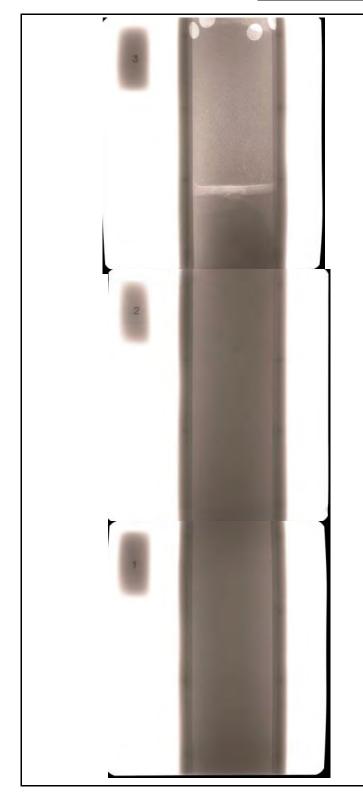
Symbol	Sample ID	Boring	Depth	Natural Moisture Content,%	Liquid Limit	Plastic Limit	Plasticity Index	Liquidity Index	Soll Classification
*	U-1	HA08-10	25-27 ft	38	38	17	21	1	

Sample Prepared using the WET method

Shelby Tube X-Ray Reports and Consolidation Test Results



Client:	Haley & Aldrich, Inc.
Project Name:	Maine Health/United Way Development
Project Location:	Portland, ME
GTX #:	8427
Test Date:	08/11/08
Tested By:	edd/md
Checked By:	jdt
Boring ID:	HA08-4
Sample ID:	U-1
Depth, ft:	25-27

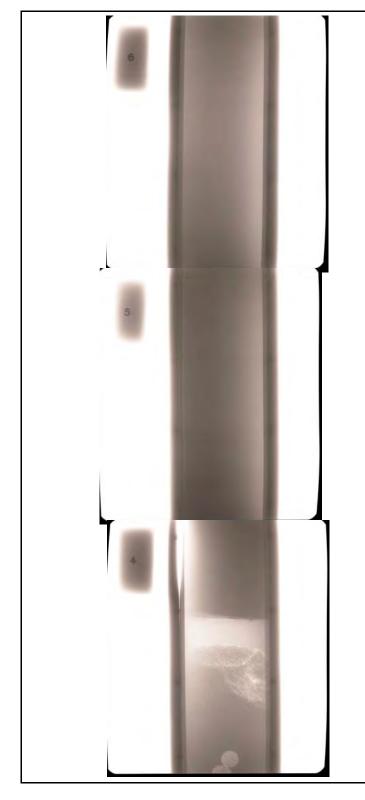




Bottom of Tube

GeoTesting
express
a subsidiary of Geocomp Corporation

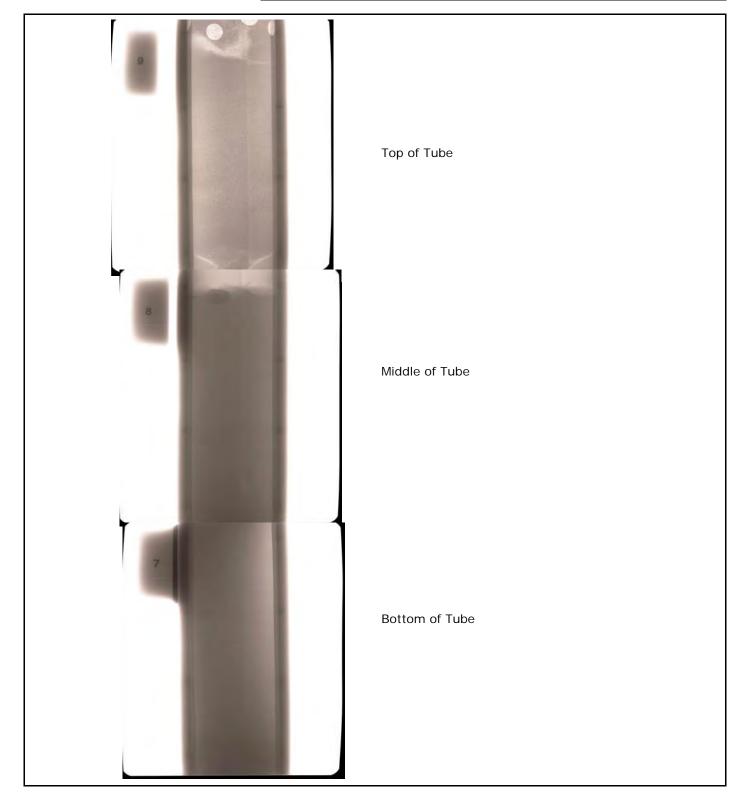
Client:	Haley & Aldrich, Inc.
Project Name:	Maine Health/United Way Development
Project Location:	Portland, ME
GTX #:	8427
Test Date:	08/11/08
Tested By:	edd/md
Checked By:	jdt
Boring ID:	HA08-4
Sample ID:	U-2
Depth, ft:	33-35



Top of Tube Middle of Tube Bottom of Tube

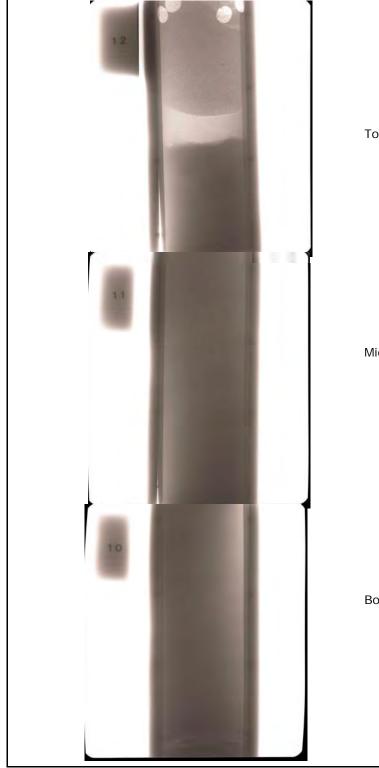


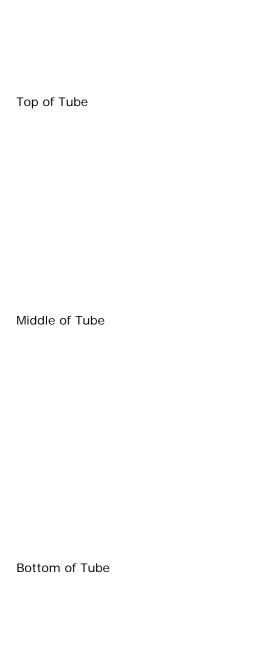
Client:	Haley & Aldrich, Inc.
Project Name:	Maine Health/United Way Development
Project Location:	Portland, ME
GTX #:	8427
Test Date:	08/11/08
Tested By:	edd/md
Checked By:	jdt
Boring ID:	HA08-8
Sample ID:	U-1
Depth, ft:	20-22



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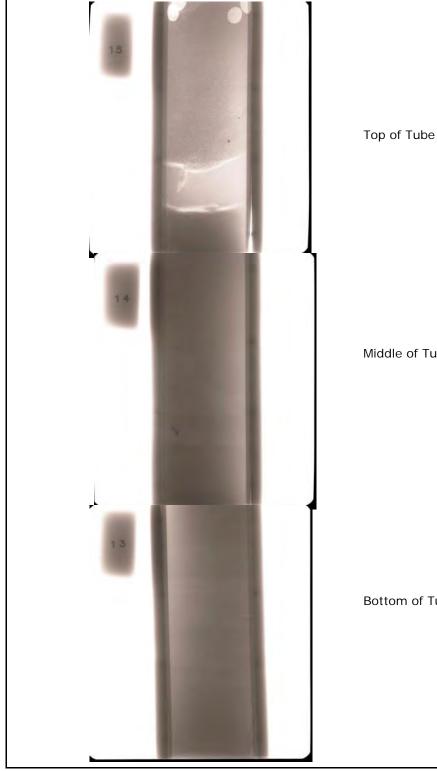
Client:	Haley & Aldrich, Inc.
Project Name:	Maine Health/United Way Development
Project Location:	Portland, ME
GTX #:	8427
Test Date:	08/11/08
Tested By:	edd/md
Checked By:	jdt
Boring ID:	HA08-8
Sample ID:	U-2
Depth, ft:	41-43





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Client:	Haley & Aldrich, Inc.
Project Name:	Maine Health/United Way Development
Project Location:	Portland, ME
GTX #:	8427
Test Date:	08/11/08
Tested By:	edd/md
Checked By:	jdt
Boring ID:	HA08-10
Sample ID:	U-1
Depth, ft:	25-27



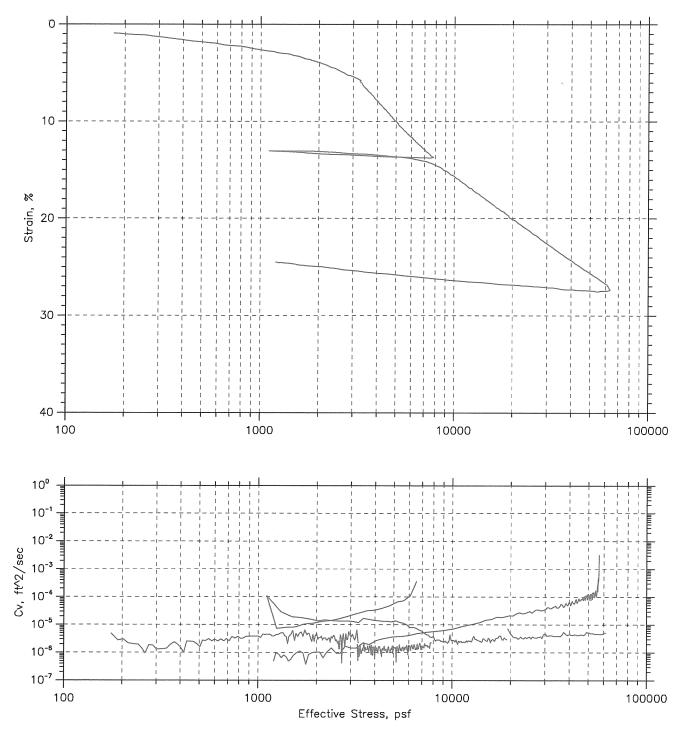
Middle of Tube

#### Bottom of Tube

Page 1 of 1

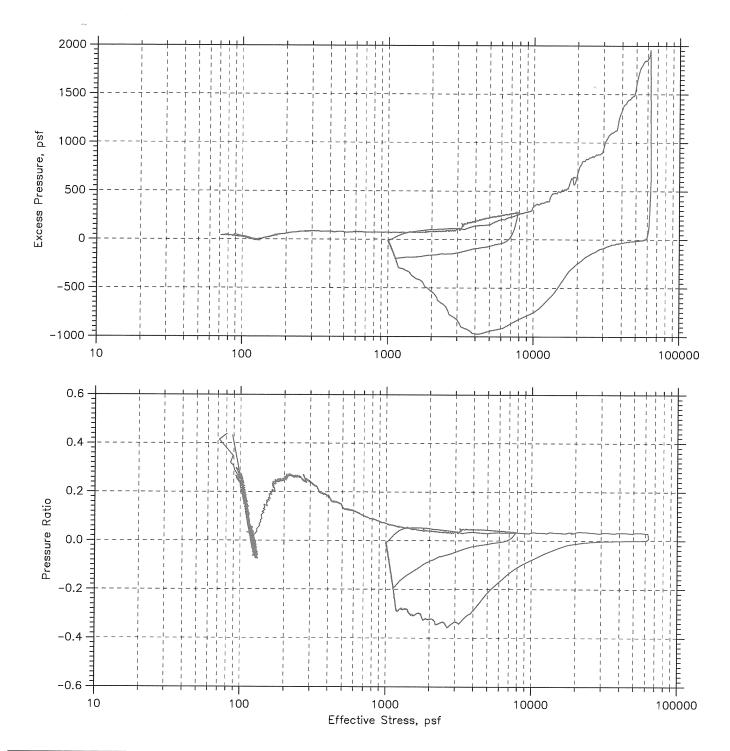
**Constant Rate of Consolidation** Constant Strain Rate by ASTM D4186

Summary Report



GTX-8427
ídt

Constant Rate of Consolidation Constant Strain Rate by ASTM D4186 Pressure Curves



Project: Maine Health	Location: Portland, ME	Project No.: GTX-8427
Boring No.: HA-08-4	Tested By: md	Checked By: jdt
Sample No.: U-2	Test Date: 08/27/08	Depth: 33-35
Test No.: CRC-1A	Sample Type: tube	Elevation:
Description: Moist, dark greenis	h gray clay	
Remarks: System S		

Project: Maine Health Boring No.: HA-08-4 Sample No.: U-2 Test No.: CRC-1A	Location: Port Tested By: md Test Date: 08/2 Sample Type: to	27/08	Project No.: GTX-& Checked By: jdt Depth: 33-35 Elevation:	3427
Soil Description: Moist, dark greenis Remarks: System S	sh gray clay			
Estimated Specific Gravity: 2.80 Initial Void Ratio: 0.98 Final Void Ratio: 0.50	Liquid Limit: 41 Plastic Limit: 17 Plasticity Index: 24 Before Consolidation		Initial Height: 1.00 in Specimen Diameter: 2.50 in	
			After Consol	idation
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	3217	RING		vrayum
Wt. Container + Wet Soil, gm	211.83	353.9	336.26	140.32
Wt. Container + Dry Soil, gm	163.17	318.01	318.01	122.08
Wt. Container, gm	8.29	204.15	204.15	8.27
Wt. Dry Soil, gm	154.88	113.86	113.86	113.81
Water Content, %	31.42	31.52	16.03	16.03
Void Ratio		0.98	0.50	
Degree of Saturation, %		90.23	90.62	
Dry Unit Weight, pcf		88.366	116.9	

Constant Rate of Consolidation Constant Strain Rate by ASTM D4186 Summary Report 0 10 Strain, % 00 30 40 100 1000 10000 100000 10° 10-1 10-2 10-3 10-4 10-5 Cv, ft^2/sec 10<sup>-6</sup> 10<sup>-7</sup> 10<sup>-8</sup> 10<sup>-9</sup> 10<sup>-10</sup> 10-11 10<sup>-12</sup> 10<sup>-13</sup> 10<sup>-14</sup> -100 1000 10000 100000

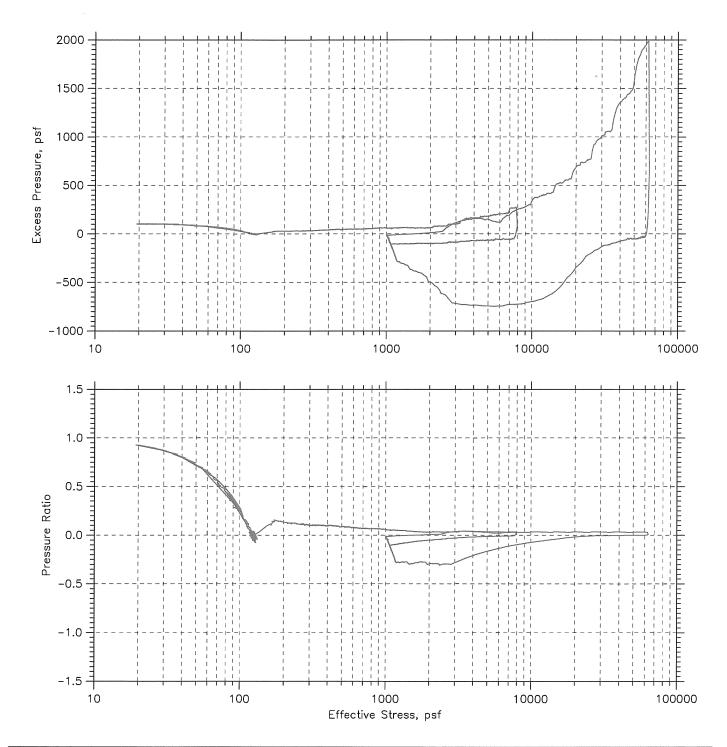
Effective Stress, psf

Remarks: System O		
Description: Moist, gray clay		
Test No.: CRC-2	Sample Type: tube	Elevation:
Sample No.: U-1	Test Date: 08/25/08	Depth: 25-27
Boring No.: HA-08-10	Tested By: md	Checked By: jdt
Project: Maine Health	Location: Portland, ME	Project No.: GTX-8427

#### Constant Rate of Consolidation

Constant Strain Rate by ASTM D4186

Pressure Curves



Project: Maine Health	Location: Portland, ME	Project No.: GTX-8427
Boring No.: HA-08-10	Tested By: md	Checked By: jdt
Sample No.: U-1	Test Date: 08/25/08	Depth: 25-27
Test No.: CRC-2	Sample Type: tube	Elevation:
Description: Moist, gray clay	· · · · · · · · · · · · · · · · · · ·	
Remarks: System 0		

Project: Maine Health Boring No.: HA-08-10 Sample No.: U-1 Test No.: CRC-2

Soil Description: Moist, gray clay Remarks: System O

Estimated Specific Gravity: 2.90 Initial Void Ratio: 1.13 Final Void Ratio: 0.64 Location: Portland, ME Tested By: md Test Date: 08/25/08 Sample Type: tube

Liquid Limit: 38 Plastic Limit: 17 Plasticity Index: 21 Project No.: GTX-8427 Checked By: jdt Depth: 25-27 Elevation: ---

Initial Height: 1.00 in Specimen Diameter: 2.50 in

	Before Consolidation		After Consol	Lidation
	Trimmings	Specimen+Ring	Specimen+Ring	Trimmings
Container ID	organic	RING		3171
Wt. Container + Wet Soil, gm	118.23	368.58	349.88	26.19
Wt. Container + Dry Soil, gm	88.77	325.88	325.88	22.93
Wt. Container, gm	8.07	216.55	216.55	8.08
Wt. Dry Soil, gm	80.7	109.33	109.33	14.85
Water Content, %	36.51	39.06	21.95	21.95
Void Ratio		1.13	0.64	
Degree of Saturation, %		99.91	99.29	
Dry Unit Weight, pcf		84.848	110.31	

#### APPENDIX E

Historic Sanborn Maps

North of Chestnut Street (midtown 1 and midtown 2)

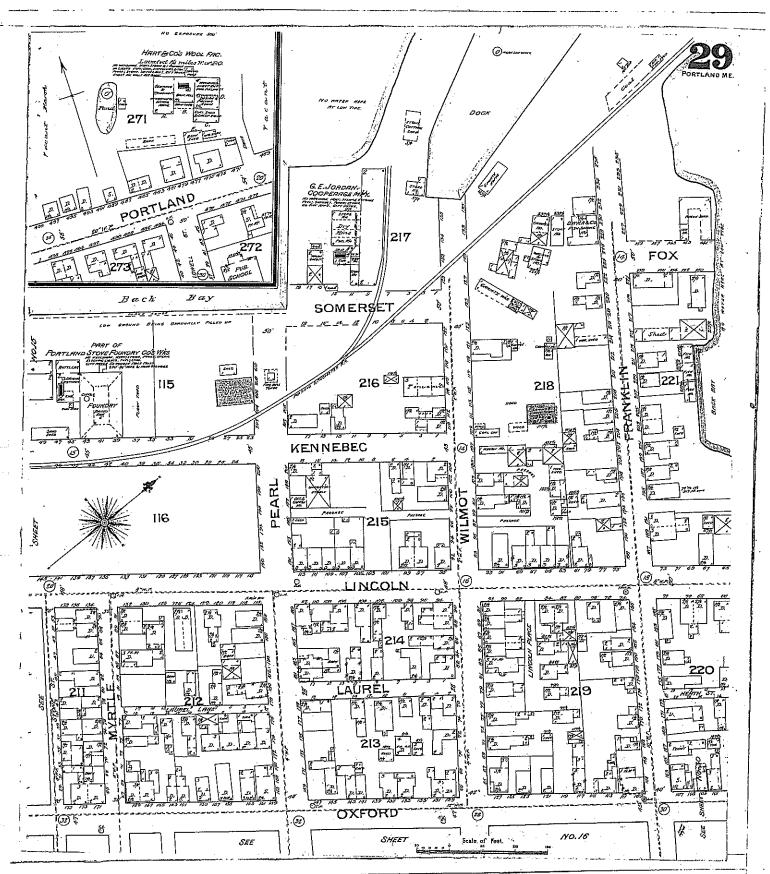




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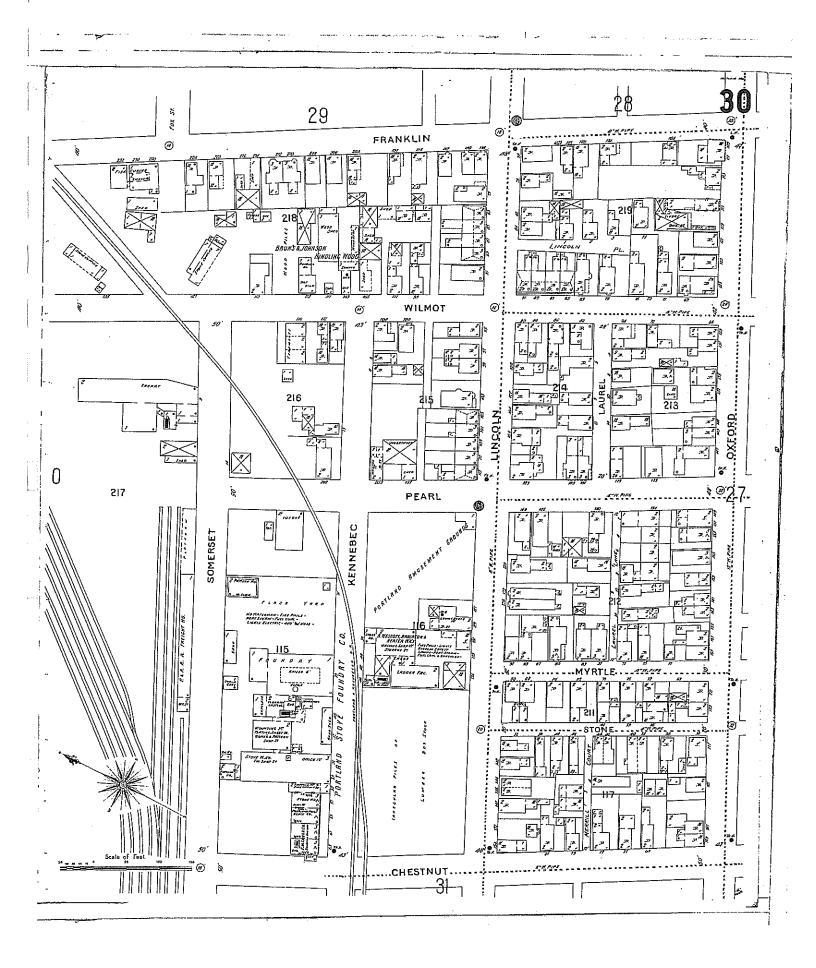
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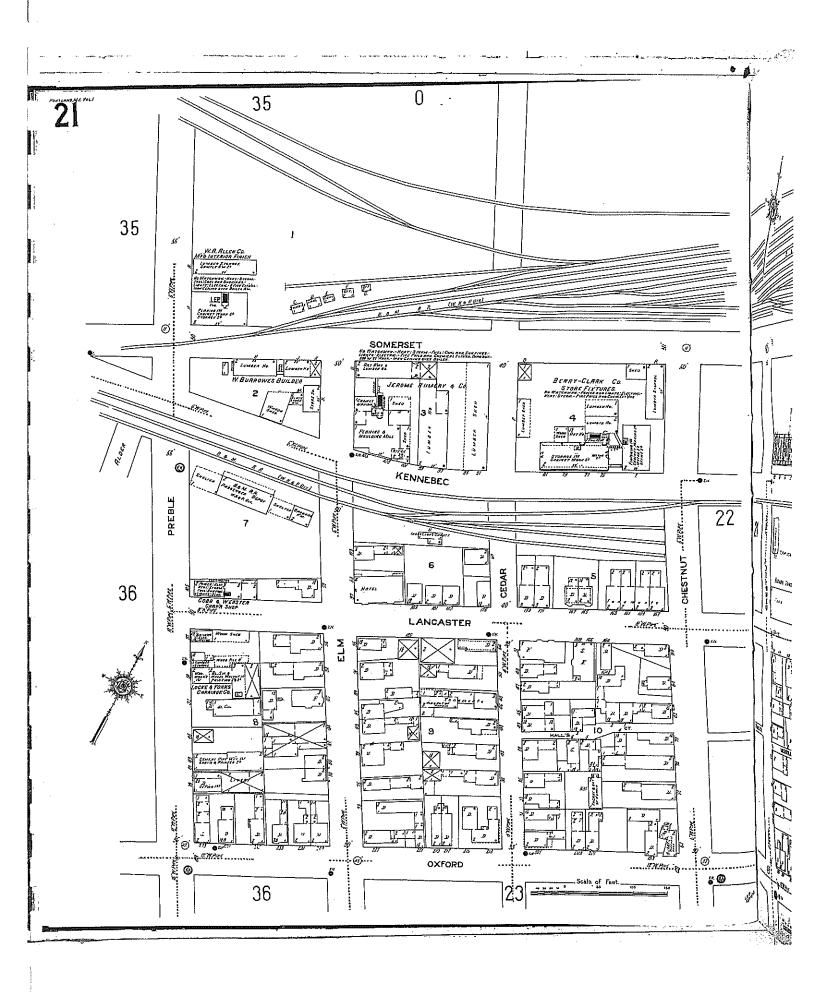
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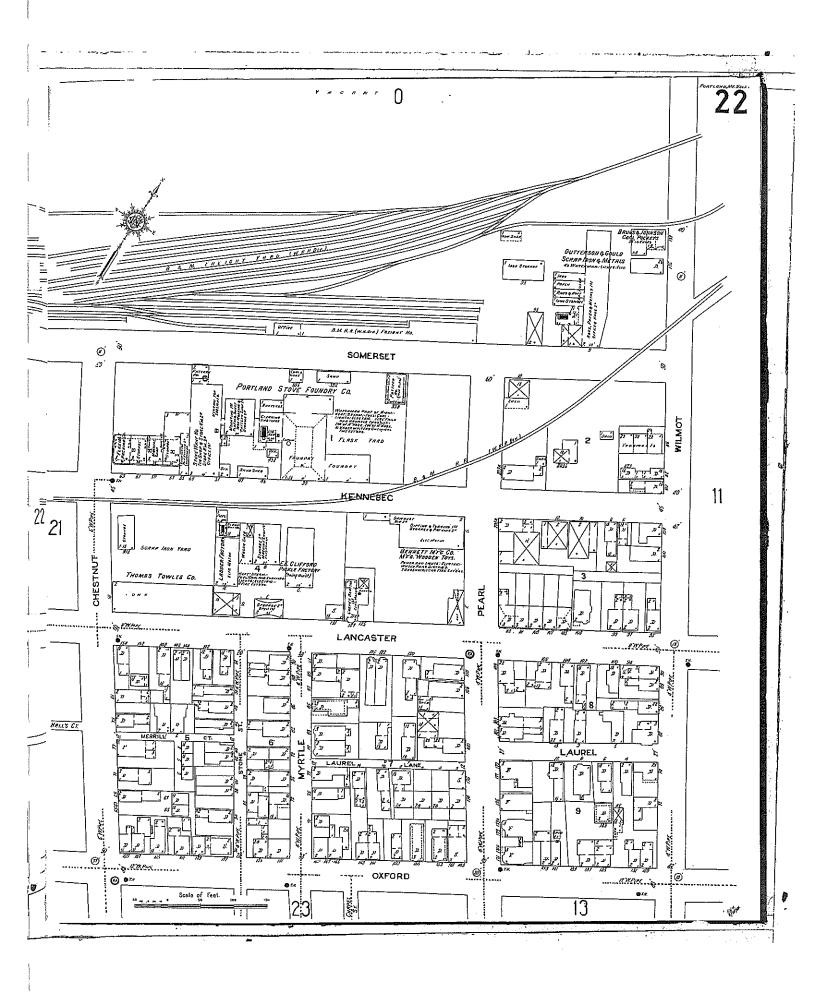
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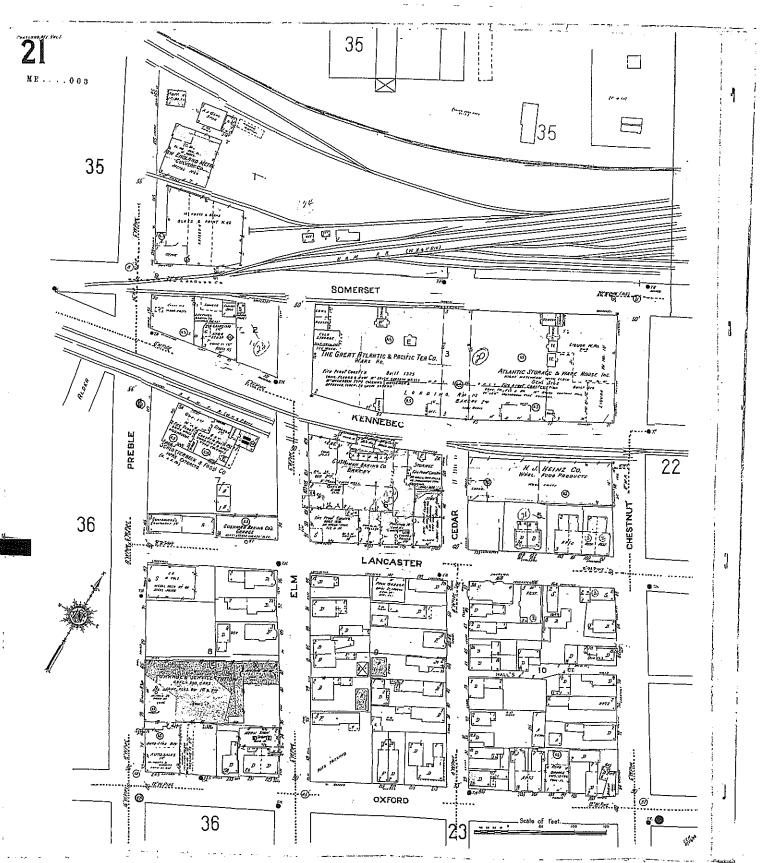


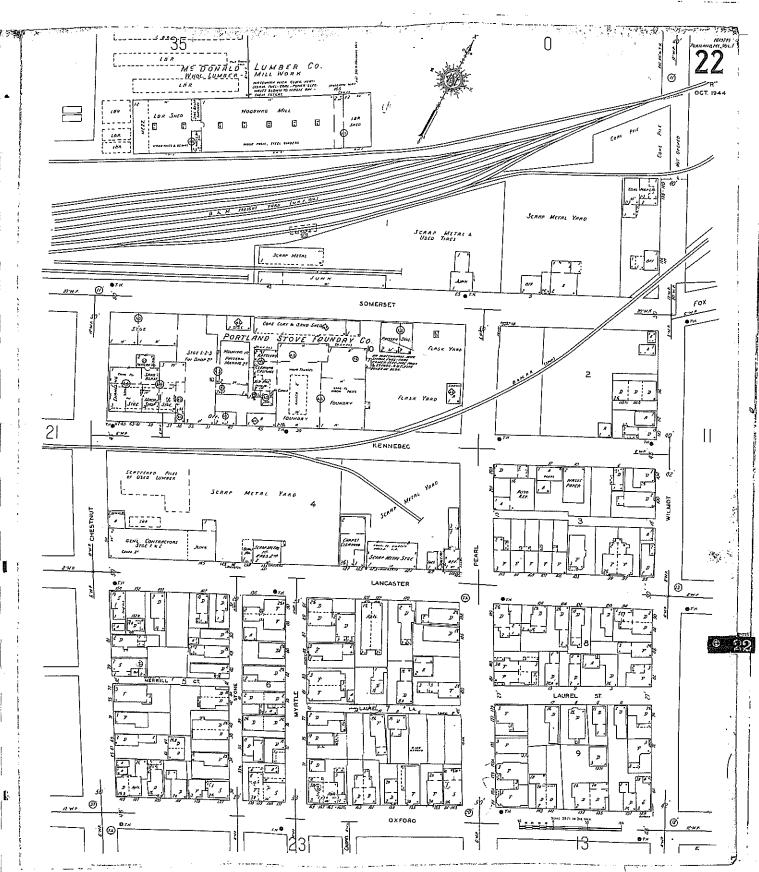








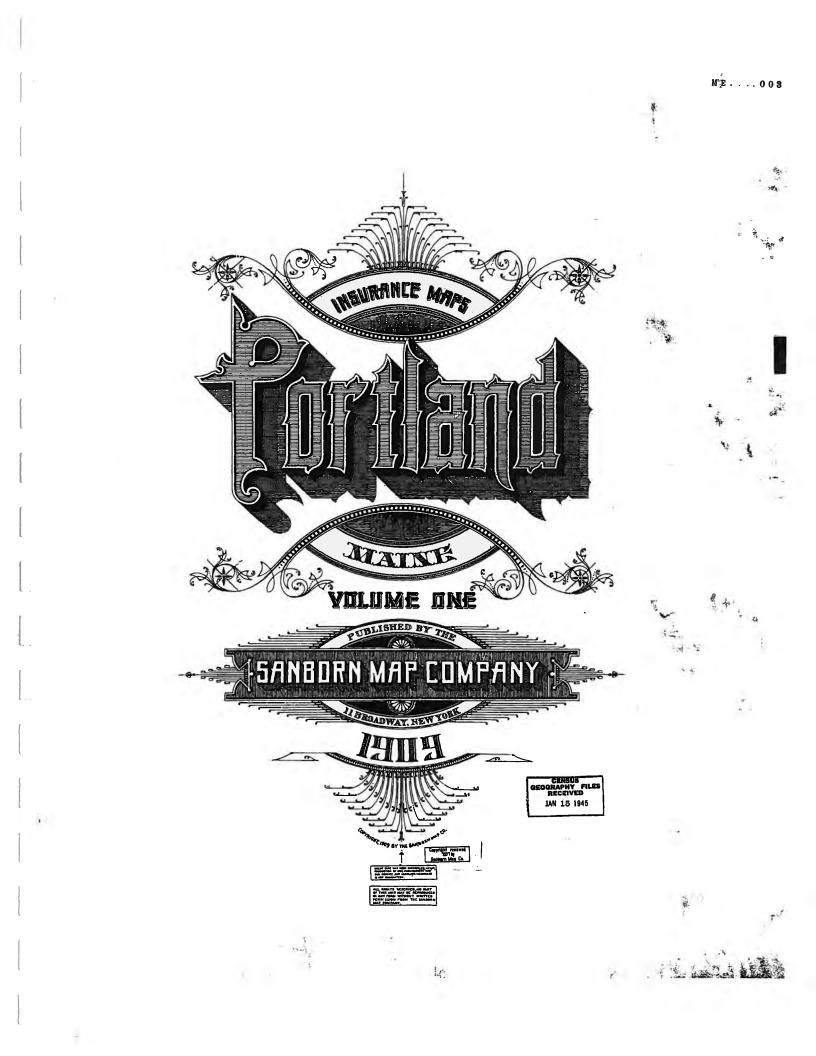


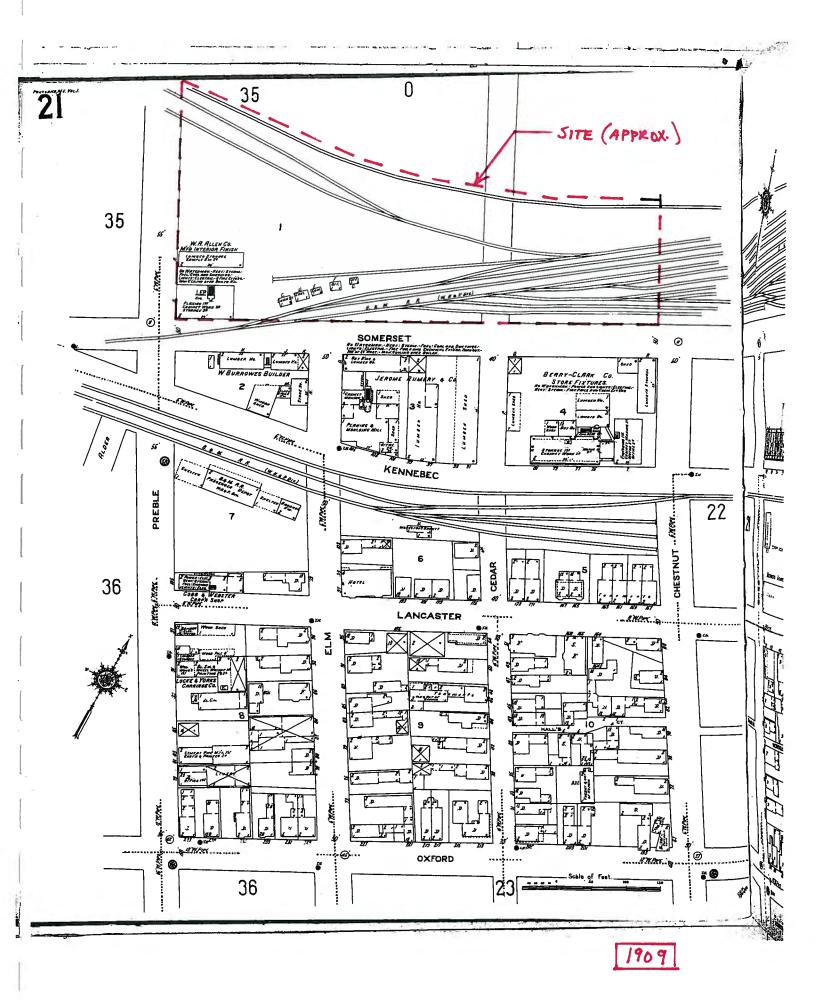


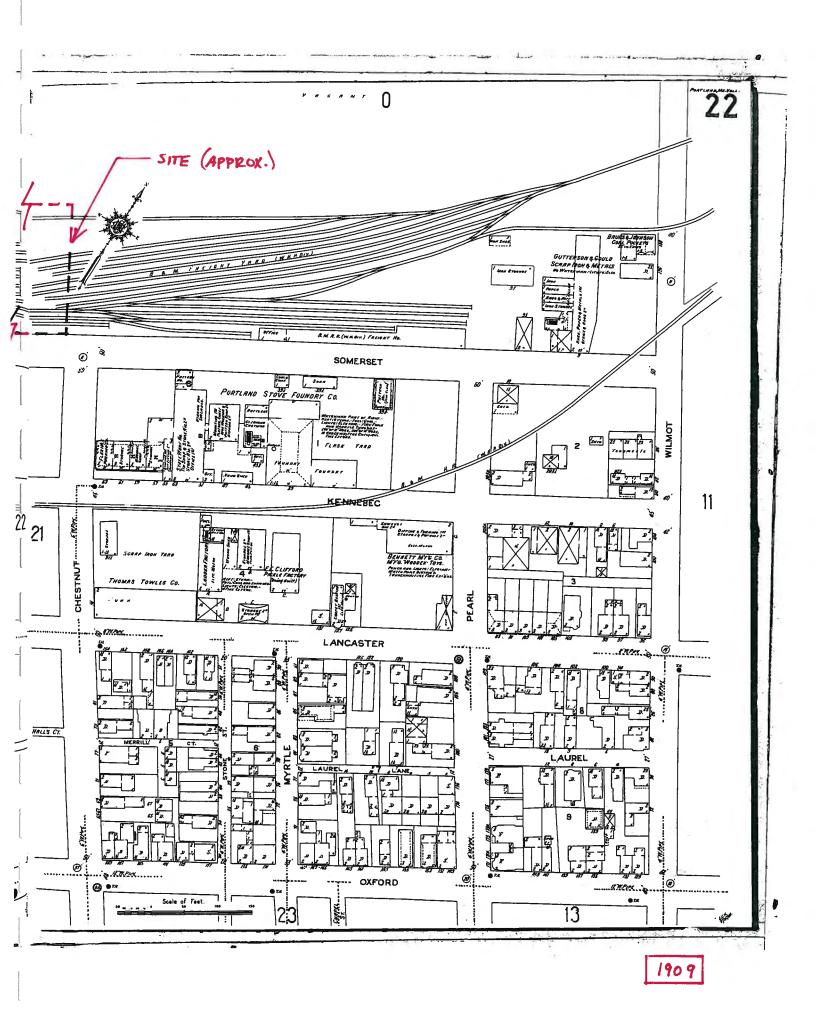
South of Chestnut Street (midtown 3 and midtown 4)



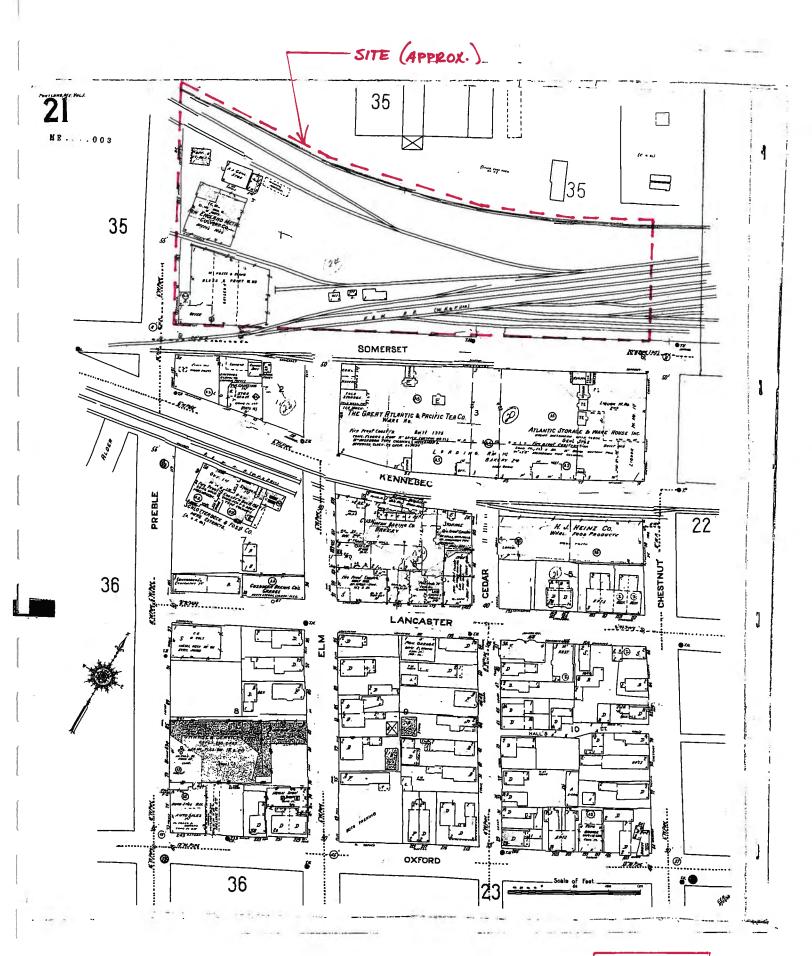












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