GEOTECHNICAL ENGINEERING STUDY LOT B

for

Hudson Logistics Center Hudson, New Hampshire

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	3
SITE DESCRIPTION	3
Overall	3
Lot B	4
PROPOSED DEVELOPMENT	4
Overall	4
Lot B	4
REVIEW OF AVAILABLE INFORMATION	5
Regional Geology	5
Federal Emergency Management Agency Flood Map	5
Available Historic Information	6
Available Geotechnical Report	6
SUBSURFACE EXPLORATION	6
Borings	7
Test Pits	8
Groundwater Observation Wells	9
Lab Testing	9
SUBSURFACE CONDITIONS	10
Subsurface Materials	10
Infiltration Testing	12
Sulfate & Chloride Testing	13
GEOTECHNICAL DESIGN RECOMMENDATIONS	13
Additional Explorations & Analysis	13
Liquefaction	14
Seismic Design	15
Building Foundations	15
Building Settlement	16
Water Tower	16
Building Floor Slabs	16
Permanent Groundwater Control	17
Payament Design	10



Retaining Walls	.20
GEOTECHNICAL CONSTRUCTION RECOMMENDATIONS	.21
Site Preparation	.21
Subgrade Preparation	.22
Removal/Replacement	.23
Excavation, Fill, Placement, and Compaction Criteria	.24
Groundwater Control	.26
SERVICES DURING DESIGN, CONSTRUCTION DOCUMENTS AND CONSTRUCTION QUALITY ASSURANCE	.26
LIMITATIONS	.27

LIST OF FIGURES

Figure 1	Site Location
Figure 2	Surficial Geology
Figure 3	Bedrock Geology
Figure 4	Effective FEMA FIRM
Figure 5	Exploration Location Plan
Figure 6	Soil Liquefaction Evaluation – Building Area (Lot B)
Figure 7	Soil Liquefaction Evaluation – Site & Roads (Lot B)

LIST OF APPENDICES

Appendix A	Historic Information
Appendix B	Available Geotechnical Report
Appendix C	Boring Logs
Appendix D	Test Pit Logs
Appendix E	Test Pit Photographs
Appendix F	Well Construction Logs & Readings
Appendix G	Laboratory Testing Results
Appendix H	Infiltration Test Logs
Appendix I.1	Flexible Pavement Design – Site Areas (Lots A, B, C)
Appendix I.2	Rigid Pavement Design – Site Areas (Lots A, B, C)
Appendix I.3	Flexible Pavement Design – Roadways

EXECUTIVE SUMMARY

Langan Project No. 151010101

In support of the proposed industrial park development in Hudson, New Hampshire, Langan conducted a geotechnical subsurface exploration and prepared a geotechnical engineering study to provide geotechnical design and construction recommendations. Specifically, this report addresses Lot B within the overall development. The remaining two lots (Lot A and C) are addressed in separate reports.

Existing grades on the 96 acre site generally slope down from the north and east to the west (about el +171 to +99). The design concept includes the construction of a distribution warehouse having a footprint of about 1,005,000 square feet (sf) and a proposed finished floor elevation (FFE) of about el +148. Proposed site grades generally range from about el +89 to +175. The remaining development includes new access roads, parking areas, loading docks, utilities, and stormwater features.

At this time, the site grading has not been finalized. As such, the recommendations provided here are subject to change when the revised site grading is complete. If the grading approach changes, a revised geotechnical engineering report may be required as the grading affects our recommendations.

Our subsurface exploration was performed between June and July, 2020 and consisted of borings (97), test pits (35), observation wells (9), laboratory testing, and infiltration tests (2).

The general subsurface conditions across the entire lot consisted of a surficial layer of topsoil (about 2 to 36 inches thick), underlain by discontinuous layers of fill (about 1 to 12 feet thick), sand/silt (about 1 to up to 38 feet thick), glacial till (about 1 to up to 27 feet thick), weathered rock (top of about el +97 to +137), and bedrock (top of about el +85 to el +159). Groundwater was encountered or observed across the site (about el +91 to +157). Within the proposed building footprint, bedrock was encountered from about el +85 to +140 and groundwater was encountered or observed from about el +101 to +149.

The proposed warehouse building can be supported on a conventional shallow foundation system using an allowable bearing pressure of 3,000 pounds per square foot (psf) bearing on the natural sand/silt, glacial till, weathered rock, or bedrock or compacted structural fill. Total and differential settlements are estimated to be 1 inch and ½ inch or less, respectively. The proposed slab areas can be constructed as conventional slab-on-grade bearing on the natural sands, glacial till, or proof-rolled existing fill.

Site Class D and Seismic Design Category B may be used in design.



The following design and construction premiums were identified:

- The natural sand is generally poorly graded and both the sand/silt and glacial till materials have a fines contents ranging from 6% to 78%. Mixing the sand/silt and glacial till with a more granular material may be required such that the materials are well graded to meet the specifications for structural fill and so that the material are not as sensitive to moisture.
- Groundwater was encountered across the site from about 6 to 35 feet below grade (about el +91 to +157).
 - o Temporary groundwater dewatering will be required throughout construction where excavations extend to below groundwater.
 - o Groundwater was encountered within 4 feet and above proposed select paved areas. Permanent dewatering (underdrains) will be required at the northern and eastern side of the lot for up to 200,000 square feet of paved areas.
 - o Groundwater was encountered above the proposed slab elevation for the building. Permanent dewatering (sub-slab underdrains) will be required for up to 10,000 square feet of the building area.
- Bedrock was encountered across the site from about 9 to 41 feet below grade (about el +85 to +159).
 - Though not encountered within the building footprint or the proposed bottom of footing elevation, bedrock was encountered to the east of the proposed building within the parking lot. If bedrock is encountered within the building, rock removal will be required.
 - o Rock removal will be required for site areas to the east.
- Select wetlands are proposed for filling as part of the development. All unsuitable materials (i.e. water, organic materials, etc.) must be removed prior to filling. Dewatering activities should be expected in these areas.
- The foundations for the proposed water towers have not been designed yet as they are a delegated design. Ground improvement may be required for the water towers; however this should be determined by the water tower design engineer of record.
- Topsoil will need to be segregated, as it is not suitable for re-use beneath structural areas (pavements, buildings, retaining walls, etc.). Topsoil may be re-used in landscaped areas, pending approval.



INTRODUCTION

This report presents our geotechnical engineering study for the proposed industrial park development in Hudson, New Hampshire. Specifically, this report addresses Lot B within the overall development. The remaining two lots (Lot A and Lot C) are addressed in separate reports.

The purposes of this study were to explore subsurface conditions, evaluate feasible foundation options, and develop geotechnical engineering recommendations. Services were performed in accordance with our authorized proposal (19 September 2019 and revised 1 July 2020).

Our approach and recommendations were developed considering the following plans, design criteria, preliminary loads, and design bulletin. Any changes to the design scheme must be reviewed by Langan for effects on our recommendations.

- Site development plans prepared by Langan (August 2020 progress print).
- "Design Criteria and Outline Specification for the Development of 2019-2020 NA Traditional Non-Sort Facility, Version 7.0" prepared by Ford & Associates Architects, Inc. (10 September 2019).
- Column Loading Map prepared by HSA & Associates, Inc. (received 20 July 2020).
- Design bulletin DB-0088 NACF Pavement Design Criteria and Guidelines (3 March 2020).

At this time, the site grading is still progressing. As such, the recommendations provided here are subject to change with the revised site grading.

Elevations are referenced from a "Topographic Subdivision Plan, Hudson Logistics Center" (21 April 2020) prepared by Hayner/Swanson, Inc. referencing the National Geodetic Vertical Datum of 1929 (NGVD29).

SITE DESCRIPTION

Overall

The overall about 320-acre site is occupied by the Green Meadow Golf Club at 59 Steele Road in Hudson, New Hampshire. The site is bounded by Sagamore Bridge Road to the north, commercial properties, streams/wetlands and New Hampshire Route 3A to the east, residential neighborhoods to the south along Fairway and Eagle Drives, and the Merrimack River to the west. Figure 1 shows the site location and surrounding properties.

The golf club consists of a 39-hole golf course including wooded areas, open fairways, water features, and sand traps. Structures include a two-story clubhouse, one-story maintenance



Langan Project No. 151010101

22 July 2020 **Revised 31 August 2020** Page 4 of 27

building, and pump houses. Grades generally slope up from the east to the center of the site and slope down from the center to the west towards the Merrimack River.

Multiple utilities run throughout the site to support the existing golf course (irrigation, electric, stormwater, etc.).

Lot B

Lot B is about 96 acres and is located on the southwest part of the overall site. Site grades generally slope down from the north and east to the west (about el +171 to +99). High points (between el +155 and 171) exist at the north part of the site (to the south existing clubhouse parking lot) and along the entirety of the eastern part of the lot. Elevations at the center and south parts of the lot typically vary between el +130 and +145. Grades slope down along the western part of the side toward the Merrimack River from about el +135 to +115. A wetlands area exists at the western part of the site with grades between about el +99 to +113.

PROPOSED DEVELOPMENT

Overall

The overall proposed development will include demolition of the existing club, golf course and ancillary structures, and the construction of three distribution warehouses on separate lots. No basement levels are proposed. Each proposed warehouse will have associated parking stalls, loading docks, access roads, landscaped areas, and stormwater basins. Additionally, one aboveground water tank is proposed for each lot (to be designed by others).

Several fill retaining walls up to about 10 feet high are proposed throughout the overall site.

Two new access roadways are proposed (Walmart Boulevard to the north and Green Meadow Drive to the south) to connect the three lots to Route 3A to the east. Walmart Boulevard will extend towards Route 3A from the northeast corner of Lot A and Green Meadow Drive will extend towards Route 3A from the east between Lots A and C. The roadways will traverse the existing wetlands and streams using a pipe culvert.

A boat ramp is being contemplated at the Merrimack River adjacent to Lot B. Explorations and associated recommendations for this area and the boat ramp are beyond the scope of this study.

Lot B

Table 1 details the proposed building information. No internal mezzanine areas are proposed.



Proposed grades vary between about el +89 to +175. The proposed FFE is about el +148 with an about 4 foot drop to adjacent grades at the loading docks, where the pavement grades generally slope away from the building. Paved areas vary between about el +132 and +153. Proposed infiltration basins are located at the northeast corner, east and southwest corner of the lot (about el +106 to +140). A stormwater swale is proposed from the south of the building, sloping down to the west toward the Merrimack River (from about el +141 to +89). A proposed soil berm at the south of the lot varies between about el +140 and +175.

Table 1. Proposed Site Development

Propos	•		Estimated Grades Within the Proposed Building Footprint		Proposed Loa	Structural ads
Stories (#)	Footprint (SF)	Existing Proposed FFE Resulting Cuts/Fills		Building Column (kips)	Wall Loads (kips/foot)	
One	1,005,000	el +115 to +165	el +148	Cut = 17 Fill = 33	190 to 220	9 to 11

REVIEW OF AVAILABLE INFORMATION

Regional Geology

The surficial geology map from the United States Department of Agriculture (Figure 2) indicates the overburden is loamy sand. The bedrock geology map from the United State Geologic Survey (Figure 3) indicates the bedrock below the site is granofels.

Federal Emergency Management Agency Flood Map

We reviewed the Flood Insurance Rate Map (FIRM) for the town of Hudson, New Hampshire, published by the Federal Emergency Management Agency (FEMA), Map No. 33011C0656D and 33011C0658D effective 25 September 2009 (Figure 4). Table 2 gives a summary of the findings.

Table 2. Flood Mapping

Flood Mapping ^{1,2,3}			
Building Area Site and Roadway Areas			
Predominantly: Zone X (not shaded)	Western Edge: Zone X (not shaded), Zone X		
Northwestern Corner: Zone X (shaded)	(shaded), & Zone AE (el +111)		

¹ Zone X (not shaded), "areas of minimal flood hazard" (i.e. outside the 500-year flood)

² Zone X (shaded), "0.2% annual chance flood hazard; areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile" (i.e. 500-year flood)

³ Zone AE, "1% annual chance flood, base flood elevations determined." (i.e. 100-year flood)

Available Historic Information

We reviewed historic topographic maps (1893 to 2012) and aerial photographs (1938 to 2016) for the overall site. Historic information is provided in Appendix A.

<u>Pre-1893</u> – The site is shown as undeveloped with an unnamed stream running through the southeast part of the site. The surrounding areas also appear to be undeveloped.

<u>Late 1910s to 1920s</u> – The site is shown as mostly undeveloped, with unidentified structures and an access road in the eastern part of the site.

<u>1930s to 1950s</u> – The unknown structures from the late 1910s and 1920s are no longer shown on the topographic maps. Parts of the southeast and northern areas of the site are developed as agricultural fields with associated structures and access roads.

<u>Early 1960s to Present</u> – The site is developed as a golf course with a residential building in the east. Site development features include a clubhouse, maintenance building, access roads, asphalt-paved parking, and water features. Topographic maps show existing gravel pits in the western part of the site from 1965 through 1987. Aerial maps show similar gravel pits to the west and northwest of the maintenance building from 1963 through 1995. The site has remained similar to its current state since about 1965.

Available Geotechnical Report

We have reviewed a geotechnical engineering report titled "Preliminary Geotechnical Engineering Study" prepared by GZA GeoEnvironmental, Inc. (May 2006). Relevant information is attached in Appendix B. The report includes 21 borings, 22 test pits, and 3 field permeability tests performed around the site. Identified design and construction premiums for the overall site included shallow groundwater reported to the west, shallow refusal on bedrock reported to the north, and potentially liquefiable soils reported to the east.

SUBSURFACE EXPLORATION

Langan performed a subsurface exploration consisting of borings, observation wells, test pits, and infiltration tests throughout the proposed development area. All work was overseen by a Langan field engineer. An exploration location plan is shown in Figure 5.



Borings

Standard Penetration Test (SPT) N-values⁴ were documented and soil samples were generally obtained continuously to a depth of 12 feet and every 5 feet thereafter. Disturbed soil samples were obtained using a standard 2-inch-outer-diameter split-spoon sampler driven by a 140-pound automatic or safety hammer in accordance with ASTM D1586, Standard Penetration Test. See Tables 3 and 4 for additional information regarding the boring program.

Recovered soil samples were visually examined and classified in the field in general accordance with the Unified Soil Classification System (USCS). Soil classifications, N-values, and other field observations were recorded on our field logs provided in Appendix C.

Bedrock was cored in selected borings using a 2-1/8-inch NQ core barrel. The core barrel was equipped with a diamond cutting bit in accordance with ASTM D2113, Rock Core Drilling. Rock type, percent recovery (REC)⁵ and Rock Quality Designation (RQD)⁶ were determined for each the core run.

Table 3. Summary of Boring Subcontractors

Date Range	Drilling Companies	Drilling Equipment	
	SoilTesting, Inc.	CME 550X ATV Rig, CME55 Truck-	
	Solit esting, inc.	mounted Rig, Deidrich D50 Steel Track Rig	
1 June to	Seaboard Geotechnical &	Diedrich D50 Track Rig, Mobile Drill B52	
2 July, 2020*	Environmental Drilling Services	Truck-mounted Rig	
Atlantic Testing Laborator Limited		CME75 Track Rig, (2) Geoprobe 7720DT	

^{*}Dates reflect duration of the overall exploration program (i.e. Lots A, B, and C)

⁶ The RQD is defined as the ratio of the summation of each rock piece greater than 4 inches long (for NX cores) to total core run length, expressed as a percent.



⁴ The Standard Penetration Test (SPT) is an in situ testing technique used to infer soil density and consistency. The SPT N-value is defined as the number of blows required to drive a 2-inch-diameter split-barrel sampler 12 inches after an initial penetration of 6-inches using a 140-pound hammer falling freely from 30 inches.

⁵ Rock Core Recovery (REC) is defined as the ratio of the total length of rock recovered to the total core run length, expressed as a percent.

Table 4. Summary of Borings

Total (#)	Subtotal (#)	Boring Locations	Boring ID's	Depth Range	Elevation Range (Bottom of Boring)
97	57	Proposed Building Areas	B-B-BOR-01 to B-B-BOR-33, B-B-BOR-33A, B-B-BOR-34 to B-B-BOR-52, B-B-BOR-101, B-B-BOR-102, B-B-BOR-104	8 to 46	el +85 to +138
97	8	Proposed Roadway Areas	B-R-BOR-01 to B-R-BOR-08	15 to 22	el +120 to +148
	32	Proposed Site Areas	B-S-BOR-01 to B-S-BOR-17, B-S-BOR-17A, B-S-BOR-18 to B-S-BOR-31	8 to 32	el +91 to +144

Test Pits

Test pit were excavated throughout the site to further observe the subsurface soils and to perform infiltration testing. See Tables 5 and 6 for additional information regarding the exploration program. Test Pit logs are provided in Appendix D, and photographs are provided in Appendix E.

Table 5. Summary of Test Pit Subcontractor

Date Range	Test Pit Company	Test Pit Equipment	
29 May to 30 June, 2020*	Polster Industries, LLC	CAT 304E, CAT 305E, Takeuchi TB260	

^{*}Dates reflect duration of the overall exploration program (i.e. Lots A, B, and C)

Table 6. Summary of Test Pits

Total (#)	Subtotal (#)	Test Pit Locations	Test Pit ID's	Depth Range (ft)	Elevation Range (Bottom of Test Pit)
	15	Proposed Building Areas	B-B-TP-02, B-B-TP-04, B-B-TP-05, B-B-TP-07, B-B-TP-08, B-B-TP-10 to B-B-TP-19	3 to 10	el +119 to +147
35	2	Proposed Roadway Areas	B-R-TP-01 to B-R-TP-04	7 to 10	el +137 to +169
	18	Proposed Site Areas	B-S-TP-01, B-S-TP-02, B-S-TP-04, B-S-TP-05, B-S-TP-08 to B-S-TP-11, B-S-TP-13 to B-S-TP-15, B-S-TP-17 to B-S-TP-23	7 to 10	el +103 to +154

Groundwater Observation Wells

Groundwater observation wells were installed throughout the site. See Table 7 for a summary of observation wells installed. Well construction logs are provided in Appendix F.

Table 7. Summary of Observation Wells

Total (#)	ID	Depth (ft)	Bottom of Observation Well Elevation
	B-B-BOR-03(OW)	30	el +121
	B-B-BOR-15(OW)	25	el +119
	B-B-BOR-18(OW)	20	el +127
	B-B-BOR-21(OW)	22	el +116
9	B-B-BOR-24(OW)	20	el +117
	B-B-BOR-33A(OW)	22	el +117
	B-B-BOR-47(OW)	30	el +112
	B-S-BOR-17A(OW)	33	el +115
	B-S-BOR-30(OW)	29	el +86

Lab Testing

Selected samples were sent to a testing laboratory to confirm visual classifications and to determine index properties (physical and mechanical). Testing for chlorides and sulfates was performed at the structural engineer's request. See Table 8 for a summary of the completed laboratory tests. Laboratory results are provided in Appendix G.



Table 8. Laboratory Testing Summary

Test Description	ASTM Standard	Quantity
Grain Size	ASTM D-6913	15
Moisture	ASTM D-2216	20
Percent Passing No. 200	ASTM D-1140	5
Chlorides	ASTM D-512	5
Sulfates	ASTM D-516	5

SUBSURFACE CONDITIONS

Subsurface Materials

The subsurface conditions generally consist of a surficial layer of topsoil underlain by layers of discontinuous fill, sand/silt, glacial till, weathered rock, and finally bedrock. A summary of subsurface materials is provided in Table 9. A description of subsurface materials encountered is provided below in order of increasing depth.

Table 9. Subsurface Conditions

Layer	Thickness (feet)	Top Elevation Range	N- Value Range	Average Density	Fines Content (%)	Moisture Content (%)
Topsoil	2-inches to 36-inches	el +169 to +108	2 to 27	M. Dense	N/A	N/A
Fill	1 to 12	el +148 to +103	1 to 71	M. Dense	N/A	N/A
Sand/Silt	1 to up to 38	el +169 to +85	3 to Refusal ⁷	M. Dense	Sand: 6 to 48 Silt: 59 to 78	Sand: 3 to 23 Silt: 21 to 27
Glacial Till	1 to up to 27	el +161 to +95	16 to Refusal	V. Dense	38	N/A
Weathered Rock	Up to 8	el +137 to +97	50 to Refusal	V. Dense	N/A	N/A
Bedrock	See Table 10					

<u>Topsoil</u> – A layer of topsoil was encountered in 78 borings and 32 test pits. The topsoil generally consists of brown to dark brown fine to medium sand with varying proportions of gravel, roots,

⁷ Refusal defined as 50 blows per 6-inches or greater.

and silt. In the remaining 18 borings and three test pits, the surficial material was consistent with the fill or natural sand material.

<u>Fill</u> – Below the topsoil, a discontinuous layer of fill was encountered in 11 borings and 3 test pits. The fill is generally composed of an orangish brown to brown fine to medium sand with varying amounts of gravel, roots, debris, organics, and silt. Note that higher SPT N-values (Table 9) within the fill layer are likely the result of obstructions (boulders, cobbles, gravel or debris) blocking the sampler. The fill layer is generally classified as poorly graded sand (SP) in accordance with the USCS.

<u>Sand/Silt</u> – Below the fill or topsoil, a layer of sand, with some silty sand and silt pockets, was encountered in all borings. The sand is generally composed of light brown to brown fine to coarse sand with varying amounts of gravel and silt. The silt, which was limited to discrete and discontinuous areas, is generally composed of light brown to brown silt with varying amounts of fine sand and gravel. Note that higher SPT N-values (Table 9) within the sand/silt layer are likely the result of obstructions (boulders, cobbles, or gravel) blocking the sampler. The sand layer, and silty layers within, are generally classified as poorly graded sand (SP), silty sand (SM), and silt (ML) in accordance with the USCS.

<u>Glacial Till</u> – Below the sand/silt, a layer of glacial till was encountered. The glacial till is generally composed of brown to grayish brown fine to coarse sand with varying amounts of gravel, silt, and weathered rock fragments. Note that higher SPT N-values (Table 9) within the glacial till layer are likely the result of obstructions (boulders, cobbles, or gravel) blocking the sampler. The glacial till layer is generally classified as silty sand (SM) in accordance with the USCS.

<u>Weathered Rock</u> – Below the glacial till, a layer of weathered rock was encountered in three borings. The weathered rock is general composed of gray fine to medium sand with varying amounts of silt, fine to coarse gravel, and weathered rock fragments. The weathered rock displayed the structure of the parent rock and had slight discoloration but broke apart under the pressure of the split spoon.

<u>Bedrock</u> – Below the weathered rock or glacial till, a layer of bedrock was inferred or cored in 49 borings and encountered in 1 test pit. A summary of encountered bedrock is provided in Table 10. The bedrock consists of gray schist and light gray pegmatite, fine to medium grained, moderately weathered, close to very close fractures, and moderate dipping and horizontal fractures. Up to five-foot-long rock cores were taken in 8 borings during our exploration. The REC and RQD of the rock core samples ranged from about 33% to 100% and 7% to 88%, respectively.



Table 10. Summary Bedrock Information

	Bedrock Depth				
Location	С	ored	Inferred		
	Depth (ft)	Elevation	Depth (ft)	Elevation	
Proposed Building Areas	13 to 41	el +98 to +121	11 to 41	el +85 to +140	
Proposed Roadway Areas	Not Performed	Not Performed	N/E	N/E	
Proposed Site Areas	Not Performed	Not Performed	9 to 17	el +126 to +159	

<u>Groundwater</u> – A summary of groundwater is provided in Table 11. Groundwater, if encountered, should be expected to fluctuate with seasons, precipitation, construction activities, irrigation activities, etc.

Table 11. Summary Groundwater Information

	Groundwater Depth					
Location	Observation	on Wells/Test Pits	Inferred in Borings			
	Depth (ft)	Elevation	Depth (ft)	Elevation		
Proposed Building Areas	7 to 25	el +121 to +146	6 to 35	el +101 to +149		
Proposed Roadway Areas	19	el +122	8 to 19	el +122 to +157		
Proposed Site Areas	14 to 30	el +91 to +125	6 to 30	el +91 to +152		

Infiltration Testing

Infiltration rates were measured in the proposed stormwater systems as specified by the civil engineer. Infiltration tests were performed in accordance with the New Hampshire Code of Administrative Rules (Env-Wq 1500). A summary of average infiltration rates at each location is presented in Table 12. A detailed summary of infiltration tests is provided in Appendix H. Generally, the measured infiltration rates are higher than the rates in the available geotechnical



report. Final design infiltration rates should be selected by the civil engineer based on the stormwater system design and allowable infiltration rates.

Table 12. Infiltration Test Results Summary

Location	Surface Elev.	Test Depth (ft)	Test Elev.	Measured Infiltration Rate (in/hr)	Material Type
B-S-TP-22	el +115	4	el +111	55	Light brown to brown silty fine SAND, trace fine to coarse gravel, trace cobbles
B-S-TP-23	el +116	2	el +114	66	Light brown fine to coarse SAND, trace silt, trace fine gravel

Sulfate & Chloride Testing

Chemical analyses were performed on select samples generally obtained from soils within 5 feet of both proposed grades and the finished floor elevation. The soluble sulfate and chloride concentrations were both less than 10 parts-per-million. A summary of laboratory testing is provided in Appendix G. Based on the laboratory testing, the sulfate exposure class⁸ is S0 and the chloride exposure class⁸ is C1 given the presence of groundwater. Consideration could be given to using chloride exposure class C0 for building slabs as a vapor barrier is proposed below.

GEOTECHNICAL DESIGN RECOMMENDATIONS

Additional Explorations & Analysis

As the design progresses, we recommend the following additional exploration and analysis work be performed to advance the geotechnical design and construction recommendations:

- Test pits should be completed along the northern part of Green Meadow Drive as access was not provided during our exploration program.
- Groundwater levels should be obtained throughout design for additional measurements and potential refinements to recommendations for permanent water controls. Additionally, groundwater readings should be collected when watering of the course has stopped and after the site irrigation system is decommissioned as leaks in the system or surface-level infiltration from the system may affect groundwater levels.

⁸ Exposure class from ACI 318-14.

- Additional design and coordination work should be performed with respect to site and sub-slab underdrain systems.
- The retaining walls will need to be designed by a design engineer registered in New Hampshire. Design should include all internal and external stability checks.
- The water tower foundations will need to be designed by others as this is a delegated design.
- Significant fills are anticipated throughout the site. Further analysis will be required once the building plans are further progressed to understand the impacts on the existing silt pockets.
- Temporary works for pre-cast/tilt-up wall panels will need to be designed by others as this is a delegated design.

Liquefaction

We evaluated the liquefaction potential of non-cohesive soil below the groundwater table and up to 50 feet below the ground surface (as required by the New Hampshire Building Code) using the procedure outlined by Youd et. al (2001). The Youd et. al method is considered to be the state-of-practice procedure as recommended by the National Earthquake Hazard Reduction Program. The method presents an empirical relationship between the earthquake demand represented by the Cyclic Stress Ratio (CSR), and the soil resistance to dynamic loading represented by the Cyclic Resistance Ratio (CRR). Field N-values are converted to N_{1,60,cs} by applying corrections for hammer energy efficiency, soil overburden pressure, borehole diameter, rod length, sampler lining, and fines content.

The available geotechnical engineering report indicated a potentially liquefiable area to the east (in the vicinity of GZA boring B-18). As part of our subsurface exploration and evaluation, we performed borings in the vicinity of boring B-18 and analyzed the results.

Our analysis was performed on a sample set of borings that were potentially liquefiable across the lot.

Input parameters included a peak ground acceleration of 0.200g (from USGS). Our analysis indicates an adequate factor of safety for liquefaction for explorations advanced within the building and roadway/site areas. We concluded that liquefaction need not be considered in the design. Plots showing factors of safety versus depth are provided as Figures 6 and 7 for the building and roadway/site areas, respectively.



Seismic Design

This section presents seismic design recommendation, in accordance with the 2019 New Hampshire State Building Code (International Building Code 2015). We have considered the soil conditions encountered in the borings to be consistent and representative of the soil conditions in the top 100 feet of soil at this lot.

Table 13. Seismic Design Values

Description	Parameter	Recommended Value
Mapped Spectral Acceleration for short periods ¹¹ :	S _s	0.238 g
Mapped Spectral Acceleration for 1-sec period ¹² :	S ₁	0.075 g
Site Class:		D – Stiff Soil Profile
Site Coefficient:	Fa	1.6
Site Coefficient:	F _v	2.4
5% damped design spectral response acceleration at	S _{DS}	0.254 g
short periods:	J _{DS}	0.254 g
5% damped design spectral response acceleration at	S _{D1}	0.120 g
1-sec period:	3 _{D1}	0.120 g
Anticipated Risk Category		II
Seismic Design Category		В

Based on the above spectral accelerations and the anticipated risk category, we have estimated the Seismic Design Category (SDC). The structural engineer is responsible for confirming the appropriate use group, occupancy category, and final SDC for the proposed structure.

Building Foundations

The materials encountered at the anticipated footing elevation consist of fill, sand/silt, and glacial. Though not encountered within the building footprint during our exploration work, weathered rock and bedrock were encountered to the east of the proposed building in the truck court/parking area; as such, bedrock may be encountered at the bottom of footing elevation. The existing fill and silt are not suitable for foundation support. The proposed structure and guard house can be supported on shallow foundations bearing on structural fill, sand/silt, glacial till, weathered rock, or bedrock using an allowable bearing pressure of 3,000 psf. If desired, a higher bearing pressure

¹¹ Value obtained from AT Council Hazards by Location as provided by the USGS.

¹² Value obtained from AT Council Hazards by Location as provided by the USGS.

Hudson, New Hampshire Langan Project No. 151010101 22 July 2020 **Revised 31 August 2020** Page 16 of 27

for footings bearing on weathered rock or bedrock could be provided. Footing subgrades should be prepared in accordance with the Subgrade Preparation section of this report.

All exterior footings should be constructed 48 inches or deeper below the lowest adjacent grade for frost protection. Interior footings in heated spaces may be constructed at a convenient depth below the slab; however, all bottoms of footings should be at least 1.5 feet below the finished-floor elevation. Interior footings in non-heated spaces, or where frost protection is not provided throughout construction, should be protected from frost (e.g., lowering footings, backfilling, heaters/blankets, etc.).

Isolated column footings should have a minimum dimension of 3 feet, and strip footings should have a minimum width of 2 feet even if smaller dimensions can be justified using the recommended allowable bearing pressure.

Foundations should not be located so that one foundation is within the zone of influence of an adjacent foundation. The zone of influence is taken as a 1H:1V projection extending outward and downward from the edge of the foundation.

Building Settlement

Total settlement of the structure is estimated to be on the order of 1 inch or less, provided the bearing pressure recommended here is used and the subgrade preparation work described here is performed. Differential settlements of adjacent new structure columns are expected to be about ½ inch. The majority of the settlement is expected to take place during construction.

Water Tower

The design engineer of record should confirm that the bearing capacity and calculated settlements (based on the water tower loads) are acceptable for use with a shallow foundation design. If not, the water tower design engineer of record should determine if supplemental foundation recommendations are required. Ground improvement to achieve higher bearing capacities may be required.

Given the design of the water tower is not finalized, we recommend that an allowance for ground improvement (stone columns up to 25 feet long) be provided for initial cost estimating until a final design can be prepared by others.

Building Floor Slabs

We recommend that ground-floor slabs be constructed as a slab-on-grade bearing on natural soils, structural fill, or compacted existing fill prepared in accordance with the recommendations



Geotechnical Engineering Study – Lot B Hudson Logistics Center Hudson, New Hampshire Langan Project No. 151010101 22 July 2020 **Revised 31 August 2020** Page 17 of 27

here. Additional recommendations for sub-slab underdrains are provided below. If bedrock or weathered rock is encountered, it should be over-excavated a minimum of 2 feet below the proposed bottom of slab elevation and replaced with structural fill or gravel; additional rock removal may be required for sub-slab utilities and should be coordinated as the design progresses. The slab-on-grade supporting short-term loads over smaller areas (e.g., vehicle wheel loads)¹³ should be designed for a modulus of subgrade reaction of 125 pounds per cubic inch (pci). The slab-on-grade supporting long-term loads over larger areas (e.g., uniform or rack loading) should be designed for a reduced modulus of subgrade reaction of 80 pci.

We recommend a minimum 6-inch-thick layer of ¾-inch clean crushed stone be included beneath the slabs to protect the prepared subgrade and to serve as a capillary break. Additional assessment is on-going regarding recommendations for a permanent drainage design.

A vapor barrier should be used below the ground-floor slab to limit transmission of water vapor through the slab. We recommend a vapor barrier with a minimum thickness of 20 mils. Omission of a vapor barrier can lead to floor-covering problems including delamination and mold. Additional waterproofing measures may be required pending the on-going recommendations for permanent drainage design. The contractor may elect to place up to 4-inches of a fine to medium sand (i.e., stone dust) above the vapor barrier for slab constructability considerations. The sand layer should have a maximum particle diameter of 3/16-inch and should consist of hard durable sand free from ice and snow, roots, sod and other deleterious matter. The vapor barrier should be coordinated with the environmental requirements for the development.

Permanent Groundwater Control

Building Areas

Perimeter wall and footing drains should be installed to divert groundwater flow away from the structure during prolonged precipitation, snowmelt, or utility breaks. Manufactured geocomposite drainage panels or a 12-inch-wide layer of ¾-inch washed crushed stone should be installed against the outside of all perimeter walls and should extend to within 1 foot of adjacent surface grade. In the truck court areas, gravel should be used. The drainage panels (or washed crushed stone) should connect to a perforated footing drain at the base of the footing having a minimum diameter of 6 inches. The footing drains should be connected to the site stormwater system and where possible drain by gravity. Where used, drainage panels should be secured in place and the filter-fabric side must face the soil. If washed crushed stone is used, it should be wrapped with a geotextile filter fabric.

¹³ "Engineering Bulletin, Modulus of Subgrade Reaction – Which One Should be Used?" by Structural Services, Inc. (8 April 2016).



As noted, the grading plans are currently being finalized. We recommend modeling anticipated post construction groundwater elevations to determine if permanent dewatering measures for site features (sub-slab underdrain, pavement underdrains, etc.) are required.

Groundwater levels (el +101 to +149) are up to 1 foot above the proposed top of slab elevation (el +148) within about 10,000 square feet of the proposed building (generally on the eastern side of the building). We propose modeling these areas further, but as the grading plans are still being finalized, we recommend that allowances and unit rates be carried for permanent dewatering measures at this point in the design (i.e. sub-slab underdrains).

A preliminary design groundwater elevation of el +153 should be used (i.e. 4 feet above the highest recorded groundwater levels to date). Underdrains should consist of a minimum of a 12-inch-thick gravel layer (3/4-inch washed, crush stone) beneath the slab. Geotextile filter fabric should be placed between the soil subgrade and the stone. Within the stone, an inter-connected grid network of 6-inch diameter SCH-80 PVC pipes should be placed. The pipes should be spaced at 15 feet on-center. The pipes should be routed to internal sump pits and connected to the site stormwater system to discharge via gravity. A minimum of one sump pit per 5,000 square-foot (or tributary area) of underdrain area should be assumed at this time.

Additionally, we recommend a perforated pipe, having a minimum diameter of 6 inches, be located on the in-board side of the truck-court foundation wall (eastern side of the building) at the bottom of footing elevation. The pipe should be routed to the site stormwater system. A 12-inch thick gravel (3/4-inch washed, crushed stone) trench wrapped in filter fabric should encapsulate the perforated pipe and extend from the bottom of footing to bottom of slab elevation.

Site Areas

Groundwater was encountered to the east of the building above and within 4 feet of the proposed pavement and truck court grades for about 200,000 square feet of the overall pavement footprint. We recommend that allowances and unit rates be carried for permanent dewatering measures at this point in the design (i.e. pavement underdrains). The pavement underdrain design will be included on the civil plans.

Underdrains should consist of a minimum of a 12-inch-thick gravel layer (3/4-inch washed, crush stone) beneath the pavement. Filter fabric should be placed between the soil subgrade and the stone. Within the stone, an inter-connected grid network of 6-inch diameter SCH-80 PVC pipes should be placed. The pipes should be spaced at 20 feet on-center. The pipes should be routed to the site stormwater system to discharge via gravity.



Pavement Design

We have provided recommendations for minimum asphalt-pavement sections using 115% of the daily traffic loading provided by the traffic engineer (Langan) detailed in Table 14. The pavement sections were designed using a California Bearing Ratio (CBR) of 10 for proofrolled site soils or properly placed compacted fill. CBR testing must be performed in pavement areas at the start of construction to confirm the design assumptions. A life expectancy of 20 years was used for flexible pavements and 30 years for rigid pavements. Pavement design calculations are provided in Appendix I. Refer to subsequent sections for subgrade preparation procedures.

We have prepared the following site-wide (i.e. all three lots) pavement design recommendations for the overall site.

Table 14: Proposed Daily Traffic Loading

Area	Passenger Cars (#)		Light Trucks (#)		Tractor Trailers (#)	
	Proposed	115%	Proposed	115%	Proposed	115%
Lot A:	651	749	n/a	n/a	131	151
Lot B:	326	375	25	29	40	46
Lot C:	354	407	n/a	n/a	60	69
Northern Access Roadway (Walmart Blvd.):	390	449	n/a	n/a	131	151
Southern Access Roadway (Green Meadow Drive):	941	1,082	25	29	100	115

Table 15: Standard & Heavy Duty Flexible Pavement Sections (Site Areas)

Material	Thickness (in)			
iviateriai	Standard Duty	Heavy Duty		
Area:	Passenger car drive aisles	Access drives & truck		
Alea.	& parking stalls	courts		
Top (Finish) Course:	2.0 inches	2.0 inches		
Asphalt Pavement Binder Course:	2.0 inches	3.0 inches		
Processed Aggregate and Gravel	8.0 inches	12.0 inches		
(NH DOT Item No. 304.3):	o.u mones	12.0 Inches		

One pavement design provided for all three lots. Lots A and C control the pavement design. Traffic loading for Lot A used in the pavement calculations.

Processed aggregate and gravel course has been increased by 2 inches from the minimum calculated pavement sections given the anticipated underlying loose fine sands.



Table 16: Standard, Heavy, Extra Heavy Duty Rigid Pavement Sections (Site Areas)

	Thickness (in) / Materials				
Material	Standard Duty Heavy Dut		Extra Heavy Duty		
Area:	Passenger car drive aisles & parking stalls	Access drives & truck courts	Dolly pads & loading/unloading aprons		
Concrete (4,500 psi 28-day strength, 6% air-entrained, chloride resistant):	5.0	8.0	8.0*		
Processed Aggregate and Gravel (NH DOT Item No. 304.3):	6.0	8.0	8.0		
Continuous Reinforcing Each Way:	#3 bar at 22-inch on-center	#3 bar at 16-inch on-center	#3 bar at 16-inch on-center		

Per the design criteria, dowels are to be used at construction joints.

Minimum calculated design heavy and extra heavy duty rigid pavement sections increased to match the design criteria minimum cross-section (8.0 inches of concrete and 6.0 inches of processed aggregate and gravel).

Processed aggregate and gravel course has been increased by 2 inches from the minimum calculated/design criteria pavement sections given the anticipated underlying loose fine sands.

Table 17. Heavy Duty Flexible Pavement Section (Roadways)

	Thickness (in)			
Material	Northern Access Roadway	Southern Access Roadway		
	(Walmart Blvd.)	(Green Meadow Drive)		
Top (Finish) Course:	1.5	1.5		
Asphalt Pavement Binder Course:	2.5	2.5		
Crushed Gravel (NH DOT Item No. 304.2):	6.0	6.0		
Gravel (NH DOT Item No. 304.3):	12.0	12.0		

Minimum calculated design pavement section increased to match the Town of Hudson minimum typical cross-section for subdivision streets (commercial/industrial) Town of Hudson Engineering Department, Engineering Technical Guidelines & Typical Details, Detail R-1 (revised February 2020) (4 inches of hot bituminous pavement, 6 inches of crushed gravel, and 12 inches of gravel).

Retaining Walls

Site fill-retaining walls may be designed as geogrid reinforced modular block walls (such as Mesa, Keystone, Versa-lok, or Redi-Rock type walls) or gravity-type retaining walls, depending on the location and size of the proposed wall.



^{*}Extra heavy duty rigid pavement shall be enhanced with a minimum of 7.5 pounds of synthetic macrofibers per cubic yard of concrete.

Retaining walls can be designed using a moist unit weight of 130 pounds per cubic foot and a drained angle of internal friction of 30°. Site retaining walls, where movement is acceptable, can be designed using active earth pressures. Walls where movement cannot be tolerated should be designed for at-rest earth pressures. The parameters described above presume (1) the wall backfill materials (i.e., within the reinforced zones) are select imported granular soils, (2) full drainage is provided behind the reinforced zone and wall facing to prevent the buildup of hydrostatic pressure, (3) that surface loads at the top of the retaining walls will consist of parking and driving areas and vehicles, and (4) the slope at the top of the retaining wall is level. Presuming the aforementioned fill, fill placement, and compaction requirements are adhered to, a coefficient of active earth pressure (Ka = 0.33) or a coefficient of at-rest earth pressure (Ko = 0.50) can be used as appropriate. The fill used may consist of imported materials that satisfy the minimum strength parameters specified here and gradation requirements specified by the wall designer. Design parameters should be confirmed during construction via laboratory testing on the actual proposed backfill materials, and adjustment of the pressures should be made by the designer where appropriate to consider these factors.

Retaining-wall foundations should bear on natural soils (if fill or silt is encountered it should be fully removed and replaced) or well-compacted structural/engineered fill compacted with at least six coverages of a minimum 5-ton static-drum-weight vibratory roller. Soft or otherwise unsuitable natural or fill identified by the geotechnical engineer in the field during proofrolling and compaction should be removed and replaced with approved compacted structural/engineered fill. Backfill behind the walls should be placed as discussed in the Fill Materials, Placement and Compaction Criteria section of this report. Over-compaction should be avoided behind the walls.

The proposed retaining wall design (including calculations and global stability and groundwater mounding analyses) and construction means and methods should be provided and signed and sealed by a Professional Engineer licensed in the State of New Hampshire.

GEOTECHNICAL CONSTRUCTION RECOMMENDATIONS

Site Preparation

All existing foundations, floor slabs, and utilities should be completely removed within 10 feet of the proposed footprint. Given the current use of the site, we expect below-grade irrigation infrastructure to be encountered throughout the lot. Below grade structures outside the building footprint can be abandoned in place provided they are removed to at least 3 feet below finished subgrade levels, 2 feet below proposed utilities, and to eliminate conflicts with new utilities or structures. Slabs left in place should be sufficiently broken up to allow water to drain and so that a geotechnical engineer can observe whether voids exist beneath the slab. Existing asphalt pavement and concrete walkways should be completely removed.



Existing utilities within the building footprint should be completely removed. Existing utilities outside of the proposed building footprint should be removed or abandoned in place by completely filling with grout.

Excavations made to remove below grade elements should be backfilled with approved, compacted fill in accordance with the Excavation, Fill, Placement, and Compaction Criteria section of this report and any environmental requirements.

Clearing and grubbing of trees and vegetation designated for removal (including root systems) should be performed. Buried debris should be completely removed beneath proposed building slab, footing, and pavement locations. Given the former and current uses of the site, bury holes with topsoil, tree stumps, or similar unknown objects should be expected throughout. Topsoil should be stripped from the proposed building and pavement areas and should be stockpiled and protected from erosion. Topsoil will be evaluated by the landscape architect (Langan) for reuse in landscape areas and coordinated with the environmental engineer (Langan). All clearing and stripping activities should be performed in strict accordance with the approved soil-erosion and sediment-control plan and the environmental reports prepared for the project.

Existing wetlands slated for removal should be completely dewatered at the on-set and maintained dry during backfilling activities. Once dewatered, all organic and silty materials should be completely removed to the top of natural granular soils, weathered rock, or bedrock. A choker 2-foot-thick layer of 3- to 6-inch diameter stone should be placed at the subgrade. A layer of filter fabric should be placed above the stone. The resulting excavation should be backfilled with structural fill as described here.

All demolition and site-clearing work should be performed in accordance with any environmental requirements established for the site, and all local, state, and federal regulations. All debris and trees and other vegetation should be properly disposed of off-site in accordance with applicable regulations. All construction work should be performed so as not to adversely impact the neighboring buildings, off site structures or utilities, including the existing utilities and trees that are to remain. Protection of these elements should be provided as necessary. Before beginning grading or placing fill, any miscellaneous trash, debris, or other unsuitable materials should be removed from the site.

Subgrade Preparation

All soil footing and utility-trench subgrades, except bedrock, should be proofrolled with six overlapping coverages of a double-drum 1-ton walk-behind vibratory roller (such as a Bomag BW75 or equivalent).

To the east of the proposed building with the parking area/truck court, bedrock was encountered; though not at the anticipated bottom of footing elevation. If a footing or adjacent footings will



bear on rock and soil, a transition zone should be created. For adjacent footings, the rock should be over-excavated a minimum of 12 inches and replaced with ¾ inch crushed gravel. For strip footings, rock should be over-excavated a minimum of 12 inches for 5 horizontal feet in either direction (total of 10 feet) from the point of bearing material transition and replaced with ¾-inch gravel. The specific requirements will be based on the field conditions observed at the subject location and the geotechnical engineer's subsequent recommendations.

All slab subgrade areas should be proofrolled with six overlapping coverages of a vibratory drum roller having a minimum static drum weight of 10 tons. Once the slab is fully compacted, a proofroll with a fully loaded dump truck should be performed. The maximum acceptable depression under the fully loaded dump truck is ½ inch. If depressions greater than a ½ inch are observed, corrective action must be taken by the contractor.

Soft areas identified during proofrolling should be excavated and replaced with approved structural fill. The actual extent of necessary removal and replacement should be determined by a qualified Langan geotechnical engineer. Care should be taken when proofrolling near any existing underground utilities that are to remain.

Soil footing subgrades should be excavated level and if any cobbles or boulders are encountered at the footing subgrade level such that a relatively level subgrade is not achieved, the cobbles or boulders should be removed and replaced with compacted structural fill, compacted ¾-inch crushed stone, or lean concrete. All soil subgrades for footings or slabs should be compacted to the project specified compaction criteria.

If foundations are not poured in a timely manner, the subgrade should be protected with a leanconcrete mud mat to protect the footing subgrades.

Steps should be taken by the contractor to control and remove surface-water runoff and precipitation. When soil is wet and subjected to construction traffic, previously acceptable subgrades can soften and become unacceptable. A smooth-drum roller should be used to seal the surface and provide for better drainage. We also recommend crowning or sloping the subgrade to provide positive drainage off the subgrades.

Removal/Replacement

If encountered beneath foundations, a minimum of 5-feet of the miscellaneous fill, or otherwise deleterious material, should be removed within the foundation zone of influence (i.e. 1H to 1V downward projection from the edge). The resulting material should be proofrolled in accordance with the Subgrade Preparation section outlined herein. The resulting excavation should be backfilled with structural fill in compacted lifts.

About 1 to 10 feet of granular fill soils were encountered in the vicinity of the existing maintenance facility area. Fill was observed in building explorations B-B-BOR-24(OW), B-B-BOR-



33A(OW), B-B-BOR-40, B-B-BOR-43 and B-B-BOR-44 extending to depths between about el +124 and +136. These materials should be removed and replaced as described above.

Placement of additional fill materials in foundation areas, if required, should be performed in accordance with the Excavation, Fill, Placement, and Compaction Criteria recommendations outlined herein.

Excavation, Fill, Placement, and Compaction Criteria

Excavation through the fill and the underlying sand/silt and glacial till can likely be performed using conventional earthmoving equipment (e.g., backhoes, excavators, dozers, etc.). Excavations made for footings and utilities should be conducted to minimize disturbance to the subgrade (i.e., backhoe with a smooth-edge bucket). Larger equipment may be required for removal of obstructions such as boulders, etc.

Within the proposed building footprint, the top of competent rock (either refusal of the drilling equipment or rock coring) was encountered from about el +85 to +140. Given a proposed finished floor elevation of el +148, rock removal within the proposed building is not anticipated.

Within the proposed roadway and site areas, the top of competent rock (either refusal of the drilling equipment or rock coring) was encountered from about el +126 to +159. Based on the current site grading, rock removal may be required to the east in the truck court and parking areas.

- Bedrock should be removed to a minimum of 6 inches below the proposed pavement section a minimum of 10 feet horizontal feet beyond. The resulting excavation should be backfilled with compacted ¾-inch stone. A layer of filter fabric should be placed between the ¾-inch stone and the pavement section.
- In truck court and parking areas where utilities that are sensitive to settlement transition from bearing on rock to bearing on soil, rock should be over-excavated a minimum of 12 inches for 5 horizontal feet in either direction (total of 10 feet) from the point of bearing material transition and replaced with ¾-inch gravel to reduce the potential for differential settlements. The specific requirements will be based on the field conditions observed at the subject location, the geotechnical engineer's subsequent recommendations, and the sensitivity of the utility to differential settlement.

Rock excavation techniques will be required to excavate to the required elevations. Blasting may be required. The actual means and methods required for rock excavation should be selected by the contractor based upon experience and capabilities. All blasting should be performed in accordance with the applicable state and local regulations and in a manner such than no on-site or off-site structures or features are adversely impacted.



All excavations should be properly sloped or braced and conform with applicable OSHA regulations including, but not limited to, temporary shoring, trench boxes, temporary rock stabilization, or proper benching or both.

All excavation and backfilling must be performed in accordance with the project environmental engineer's recommendations.

The following types of fill can be used.

<u>Structural Fill</u> – Structural fill should be well-graded sand and gravel having a maximum particle size of 3 inches and no more than 10% passing the No. 200 sieve. Additionally, the structural fill should be free of organics, clay, roots, concrete, other non-soil constituents, and other deleterious or compressible materials. Any approved imported structural fill should be "certified clean fill" free of hazardous substances and meeting all local, state, federal and the New Hampshire Department Environmental Services regulations.

Material Reuse – The contractor may reuse the on-site granular fill, sand, or glacial till as structural fill provided the soils meet the requirements for structural fill outlined above and is approved by the environmental engineer. The silt may not be used as structural fill. Note that samples obtained within the fill, sand, and glacial till layers have a fines content (material passing the No. 200 sieve) ranging from about 2% to 13%; however, based on our experience with the anticipated soil, select soils will be sensitive to moisture. The overall amount of soil that can be reused will be dependent on the amount of fines present within the soil, the contractor's ability to add stone, the time of year the earthwork is carried out (e.g., potentially inclement weather), and the ability of the earthwork contractor to stage, aerate and process the material to facilitate placement and compaction. The existing shallow sand generally has a uniform gradation and low silt content (poorly graded) which may be difficult to compact to specifications without systematic application of water to each layer or blending the material to create a well-graded fill. In addition, the contractor may need to place the material in thinner lifts to achieve the compaction requirements specified herein.

<u>General Fill</u> – On-site soils not meeting the requirements for structural fill can be used as general fill for site landscape and other nonstructural areas (e.g., landscaped areas) if environmentally suitable for reuse. The fill and silt layers may be used as general fill, if required.

<u>Compaction Criteria</u> – All fill should be placed in uniform 12-inch-thick loose lifts and compacted. Fill in landscaped areas should be compacted to 90% of its maximum dry unit weight as determined by ASTM D1557; all other fill should be compacted to at least 95%.



In restricted areas where only hand-operated compactors can be used, the maximum lift thickness should be limited to 8 inches. The appropriate water content at the time of compaction should be plus or minus 2% points of optimum as determined by the laboratory compaction tests of proposed fill. No backfill should be placed on areas where free water is standing or on frozen subsoil areas.

Groundwater Control

Across the lot, groundwater was encountered from about el +91 to +157. Based on the proposed grades, we expect that groundwater will be encountered at the northern and eastern sides of the development area during construction. Temporary groundwater control should also be expected throughout the entire lot.

We anticipate that dewatering will be required during construction. Water infiltration to the foundation excavation can likely be controlled using gravity-fed sump pumps via gravel trenches or sumps assisted with collector trenches. Deeper systems such as well points may be required. The final dewatering measures required should be evaluated and designed by the contractor. The dewatering measures implemented should adequately dewater all foundation-related excavations such that compaction of footing subgrades is feasible.

Collection of rainwater runoff will also be needed during the excavation of the removal and replacement program and during the subgrade preparation work. Water runoff is expected to be controlled with the use of gravel-lined collection trenches, pits and submersible pumps. Care should be taken to ensure that drainage is provided during all phases of excavation work. Environmental pretreatment of groundwater, if necessary, is beyond the scope of this study. Collected water should be discharged in accordance with applicable regulations.

SERVICES DURING DESIGN, CONSTRUCTION DOCUMENTS AND CONSTRUCTION QUALITY ASSURANCE

During final design, Langan should be retained to consult with the design team as geotechnical questions arise. Technical specifications and design drawings should incorporate our recommendations. When authorized, we will assist the design team in preparing specification sections related to geotechnical issues such as earthwork, shallow foundations, backfill, retaining walls, and excavation support. Langan should also, when authorized, review the project plans and contractor submittals relating to materials and construction procedures for geotechnical work to confirm the designs incorporate the intent of our recommendations.

Langan has explored and interpreted the site subsurface conditions and developed the foundation design recommendations contained here, and is therefore best suited to perform quality-assurance observation and testing of geotechnical-related work during construction. The work



requiring quality-assurance confirmation or special inspections per the Building Code includes, but is not limited to, earthwork, shallow foundations, backfill, retaining walls, and excavation support.

Recognizing that construction observation is the final stage of geotechnical design, quality-assurance observation during construction by Langan is necessary to confirm the design assumptions and design elements, to maintain our continuity of responsibility on this project, and allow us to make changes to our recommendations, as necessary. The foundation system and general geotechnical construction methods recommended herein are predicated upon Langan's assisting with the final design and providing construction observation services for the owner. If Langan is not retained for these services, we cannot assume the role of geotechnical engineer of record, and the entity providing the final design and construction observation services must serve as the engineer of record.

LIMITATIONS

The conclusions and recommendations provided in this report result from our interpretation of the geotechnical conditions existing at the site inferred from a limited number of borings and test pits, and information provided by Hillwood. Actual subsurface conditions may vary. Recommendations provided are dependent upon one another and no recommendation should be followed independent of the others.

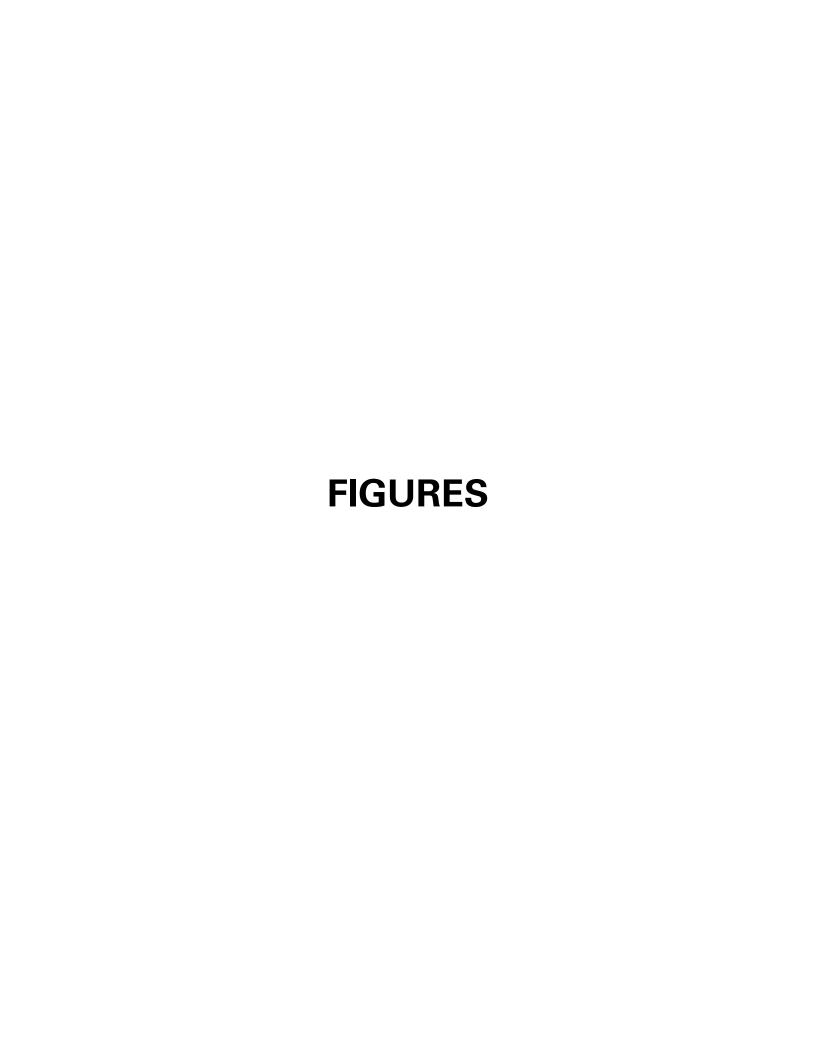
Any proposed changes in structures or their locations should be brought to Langan's attention as soon as possible so we can determine whether such changes affect our recommendations. Information on subsurface strata and groundwater levels shown on the logs represent conditions encountered only at the locations indicated and at the time of our exploration. If different conditions are encountered during construction, they should immediately be brought to Langan's attention for evaluation because they might affect our recommendations.

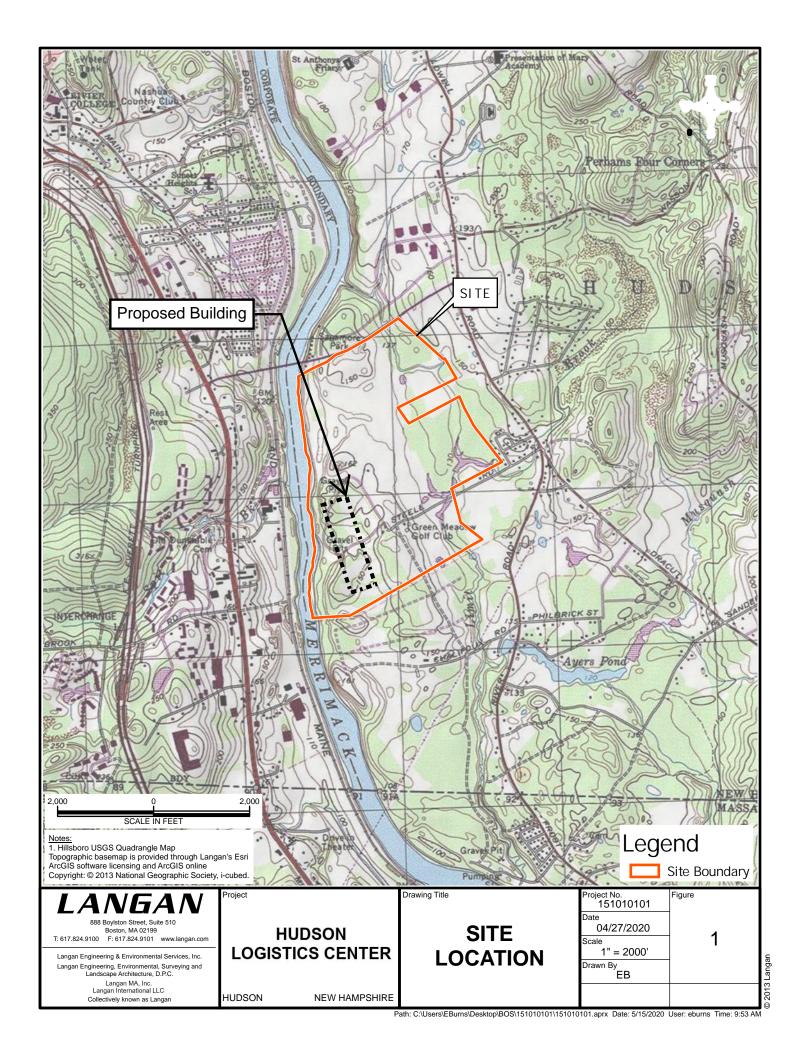
This report has been prepared to assist the owner, architect, and structural engineer in the design process and is only applicable to the design of the specific project identified. The information in this report cannot be used or depended on by engineers or contractors involved in evaluations or designs of facilities (including underpinning, grouting, stabilization, etc.) on adjacent properties beyond the limits of that which is the specific subject of this report.

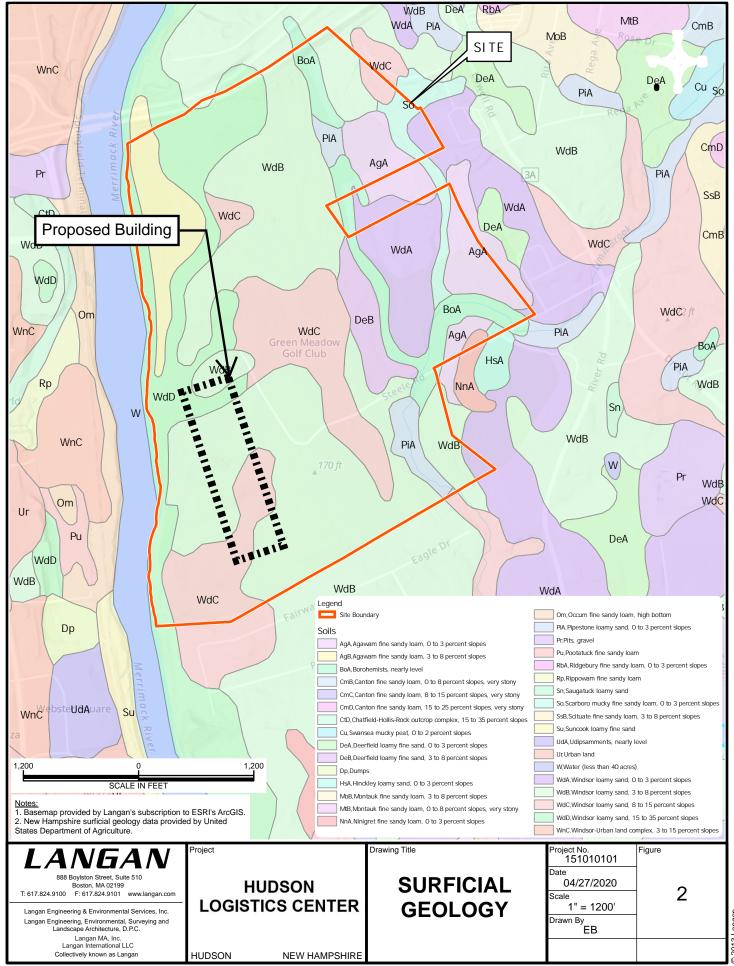
Environmental issues (such as permitting or potentially contaminated soil and groundwater) are outside the scope of this study and are addressed in a separate Langan evaluation.

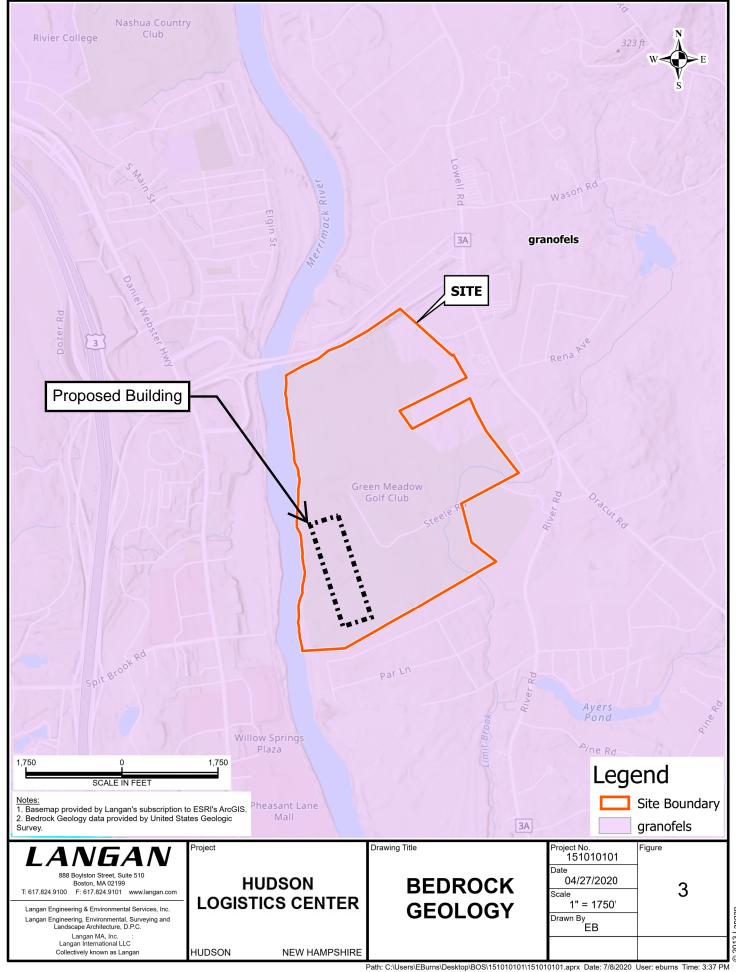


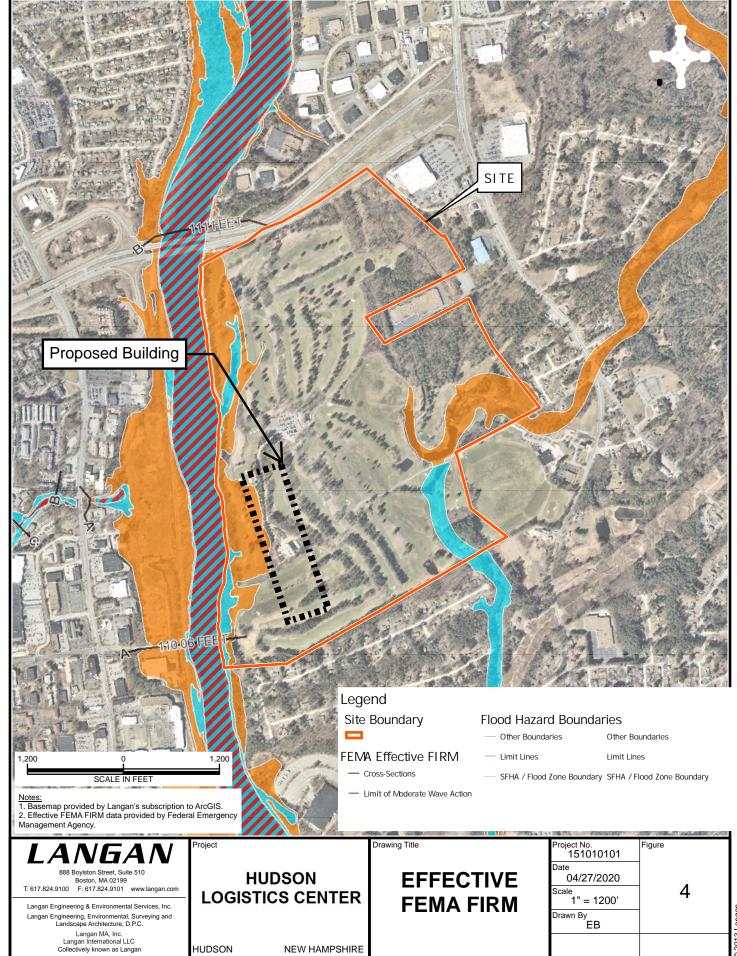


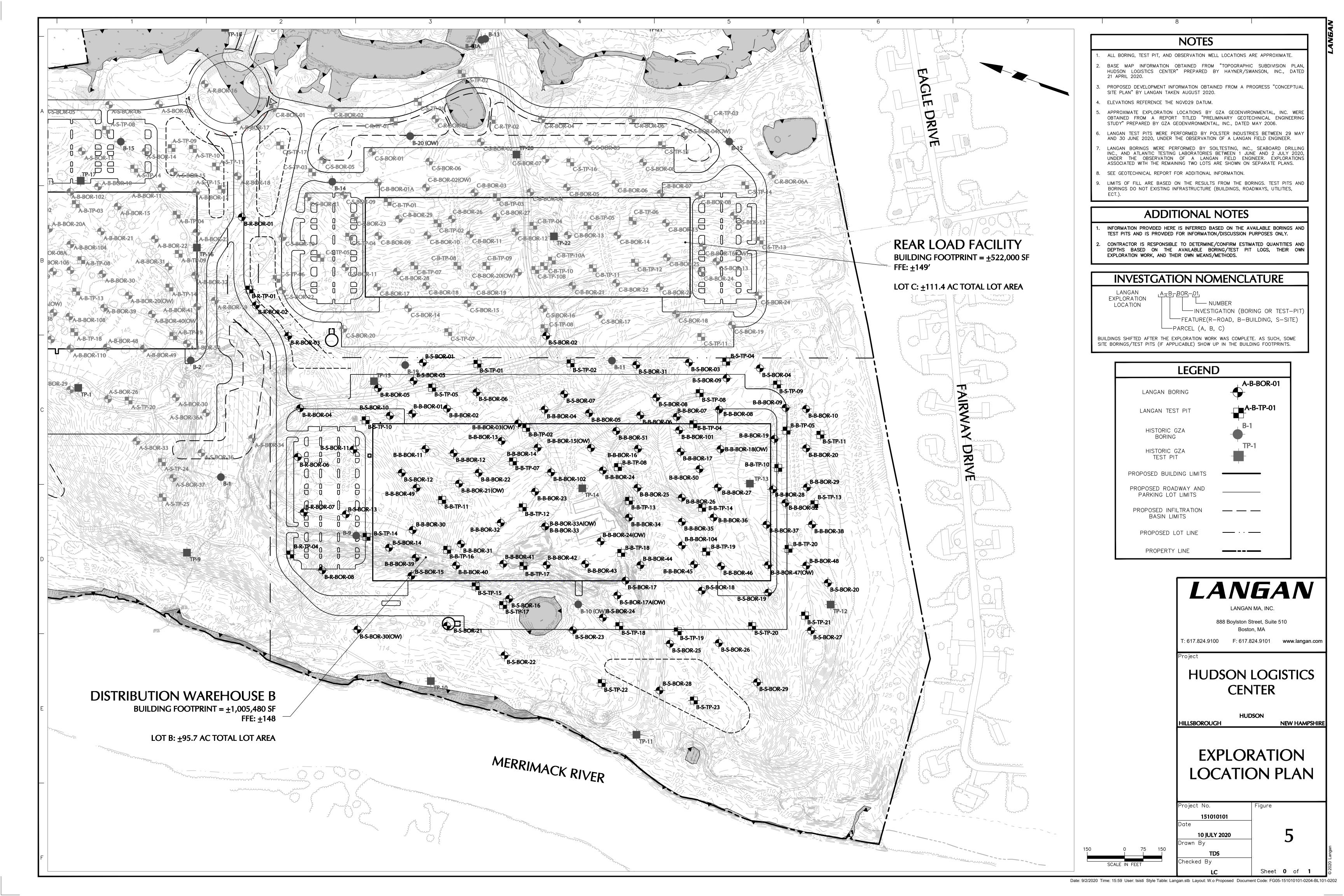


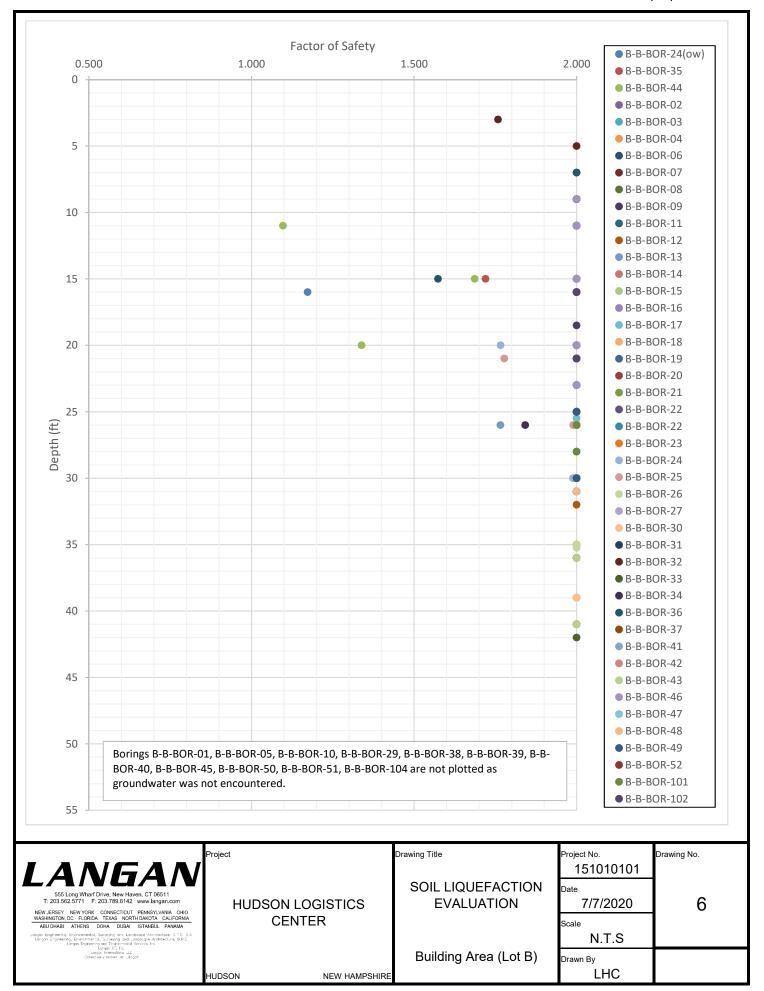


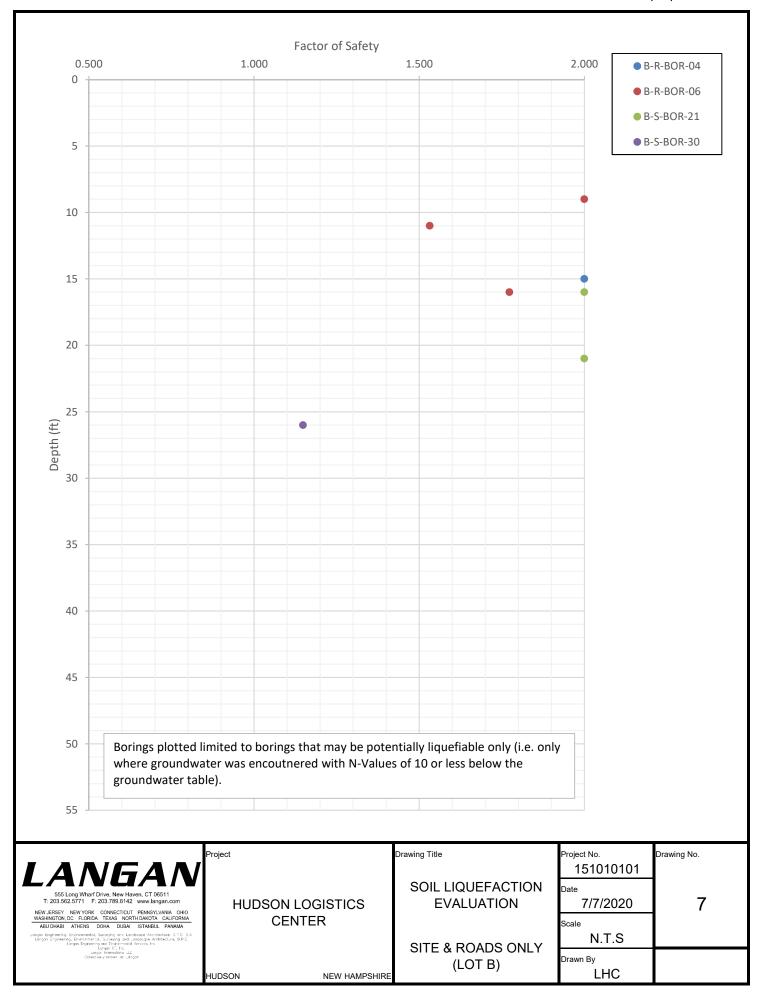












APPENDIX A HISTORIC INFORMATION

APPENDIX B AVAILABLE GEOTECHNICAL REPORT

TABLE 1 SUMMARY OF TEST BORINGS AND TEST PITS

River Place Hudson, New Hampshire

		Ground	Exploration	Groun	dwater			Thickne	ss of Depos	lt (feet)			Ref	usal
Test Boring Designation ¹	Notes	Surface Elev. +/-(feet) 2	Depth (feet)	Depth to (feet)	Elev. of (feet)	Topsoil	Subsoil	Silit	Sand	Silty Sand	Gravelly Sand	Peat	Depth to	Elev. of
B-1	6	136.0	30.2	NA					29.7				30.2	105.8
B-2		150.6	22.0	NA		0.2			>21.5				NE	
B-3		138.7	22.0	NA		1.0	1.0	>13.5	6.5				NE	
B-4		132.8	22,0	NA		1.0	1.5	3.5	>16				NE	
B-5	6	153.9	13.2	NA		1.0			11.2				13.2	140.7
B-6	0:	119.8	22.0	15.0	104.8	0.5	1.5			>20			NE	
B-7		111.2	22.0	6,0	105.2	0.5	2.0	>13.5	6.5				NE	
B-8		116.6	27.0	21.0	95.6	0.3	2.2			>24.5			NE	
B-9		147.5	37.0	25.0	122.5				8,5	>28.5			NE	
B-10 (OW)	4	112.9	25.0	19.6	93.3	2.0			>23	1			NE	
B-11	6	169,6	10.5	NA		1.0	1.0			8,0	0.5		10.5	159.1
B-12	6	132.1	20.8	3.0	129,1	2.0				18.8			20.8	111.3
B-13	6	127.8	15.1	NA		0.5				14.6			15.1	112,7
B-13A	6	128.1	19.1	5.6	122.5	0.5				15,0	3.6		19.1	109.0
B-14		133,3	11.0	3.6	129.7	1,2	1.3		>8.5				NE	
B-15		133.7	12.0	3.7	130.0	0,5	1.5		>11,5				NE	
B-16	5	129.7	12.0	6.0	123.7	1,0	1.0		>6	4.0			NE	
B-17 (OW)	5	132.6	19.0	10.3	122.3	0.5	1.0	7.0	>11.5	1.0			NE	
B-18	- 5	132.4	12.0	5.5	126.9	1.0	1.0		>10				NE	
B-19	6	149.2	16.5	15.0	134.2	1.0	1.0		9.9	2,1	2.5	-	16.5	132.7
B-20 (OW)		133.1	11.0	3,8	129.3	0.7	1.3		>3.5	5,5			NE	
TP-1		146.6	7.0	NE	125.5	0.5	1.5		3.5	>3			NE	
TP-2		135.1	7.0	NE		0.3			5.5	>6.7			NE	
TP-3		138.5	7.0	NE		0.5				>6.5			NE	
TP-4		157.7	6.5	NE		0.5				0.5	>6		NE	_
TP-5	6	136.7	2.5	NE		0.5				1	>2.5		2.5	134.2
TP-5A	6	136.7	2.5	NE					2,5	-	- 2,5		2.5	134.2
TP-6		131,3	7.0	7.0	124.3	1.5			4,3	>5.5		22	NE.	154,2
TP-7		138.5	7.0	NE NE		0.5	_			>6.5			NE	-
TP-8		119,1	7.0	NE		0.5	0.8			>5.7		-	NE	
TP-9		137.2	7.0	NE		0.7	0.0			>6.3			NE	\vdash
TP-10		119.0	7.0	NE		0.5				>6.5			NE	
TP-11		109.6	7.0	NE		1.5		>5.5		- 0.5			NE	
TP-12		134.1	7.0	NE		0.5		4.0	>2,5	+			NE	
TP-13		139.9	6.5	NE		0.4		1.0	>5	1,1			NE	
TP-14		138.1	6.0	NE		0.4			>4.5	1,1			NE	
TP-15	7	150.0	6.5	NE		0.5			>2.2	3.8			NE	
TP-16		142,5	7.0	NE NE		0.8			>4.8	1,4			NE	
TP-17		135.8	7.0	NE		0.5			>5	1,5			NE	
TP-18		126,5	6,5	5.4	121,1	0.3			-5	4.0		>2,5	NE	
TP-19		127.7	7.0	NE	dm(\$8.0)	0.2	-			>6.2		- 4,5	NE	
TP-19		133.2	7.0	4.8	128,4	0.8				>6.3			NE NE	
TP-21		127.7	6.8	6.7	121.0	0.7				>6.3		1	NE	t -
TP-22		146.3	7.0	NE	121,0	0.3	 	>0.8	5.8	70.3			NE NE	

Notes:

- 1. Refer to Appendix B for test boring logs and Appendix C for test pit logs.
- Approximate ground surface elevation information was interpolated from survey information presented on a plan entitled "Boring/Test Pit/Observation Well Location Plan, 59 Steele Road, Hudson, New Hampshire," prepared by Hayner/Swanson, Inc. of Nashua, New Hampshire, dated April 2006.
- Groundwater readings shown for test borings with observation wells installed were measured in groundwater observation wells on April 14, 2006. Italicized groundwater readings represent groundwater readings taken during drilling or test pit excavation and do not represent stabilized levels.
- 4. Cobble layer encountered from 15 to 15.5 feet below ground surface. Sand deposit thickness shown does not include cobble layer thickness.
- 5. Boring terminated due to running sands.
- 6. Refusal encountered due to boulders or bedrock.

04.0024050.01 Boring & Test Pit Summary.xls

7. Approximate ground surface elevation was interpolated from topography site plan provided by Hayner Swanson.

Abbreviations: NA = Not Available NE = Not Encountered

OW = Observation Well Installed

GZA GeoEnvironmental, Inc.

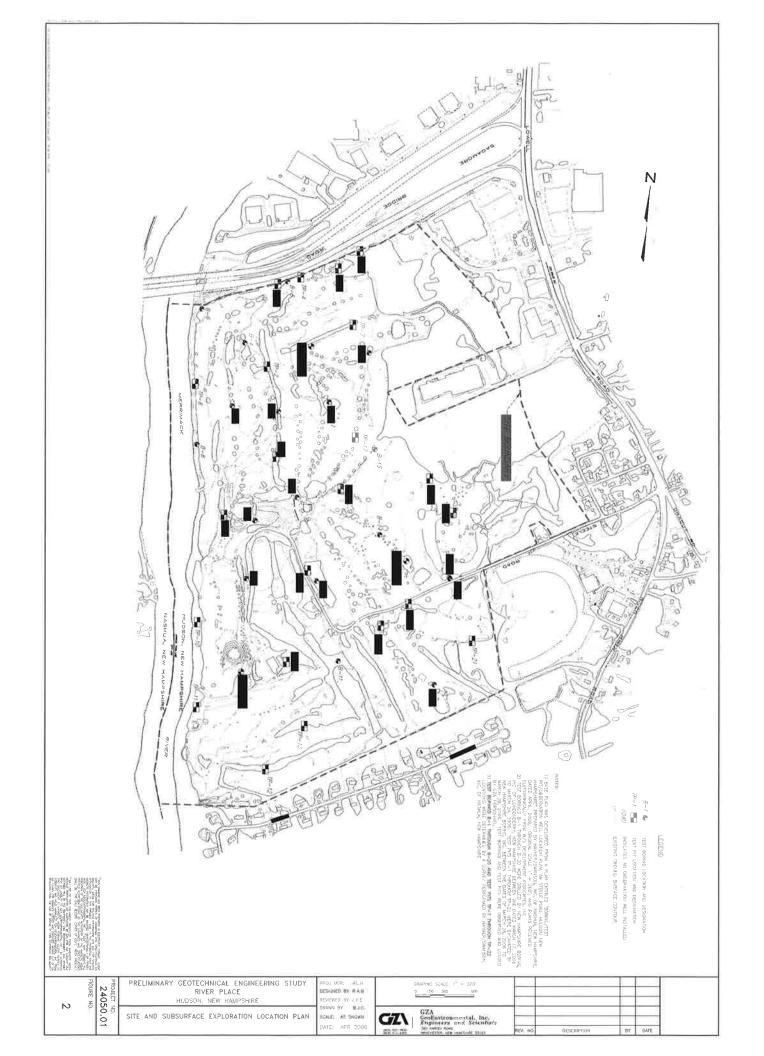
TABLE 2 SUMMARY OF LABORATORY TESTING

River Place Hudson, New Hampshire

Boring / Test Pit	Sample	Depth	Soil Description		Frain Size istribution		Natural Water
No.	No.	(feet)		Gravel	Sand	Silt	Content (%)
B-1	S-3	10-12	Fine to coarse SAND, some Gravel, trace Silt	21.0	73.7	5.3	4.4
B-2	S-2	5-7	Medium to coarse SAND, little Gravel, trace Silt	15.0	80.0	5.0	3.1
B-3	S-2	5-7	Medium to coarse SAND and Gravel, trace Silt	36.9	60.4	2.7	3.3
B-4	S-2A	5-6.8	SILT and fine Sand	0.1	48.8	51.1	20.4
B-5	S-3	10-12	Fine to medium SAND, some Gravel, little Silt	33.9	46.3	19.8	5.0
B-8	S-2	5-7	Fine to medium SAND, some Silt	0.0	73.4	26.6	7.5
B-9	S-2	5-7	Fine to medium SAND, trace Silt	0.2	95.9	3.9	5.8
B-11	S-2	4-6	Fine to medium SAND, some Silt	0.1	79.4	20.5	7.0
B-15	S-2	5-7	Fine to coarse SAND, little Silt, trace Gravel	7.5	75.9	16.6	24.3
B-16	S-1B	0-2	SILT, trace fine Sand	0.0	4.8	95.2	33.7
B-17(OW)	S-2	4-6	SILT, some fine Sand	0.2	30.0	69.8	25.4
B-18	S-3	10-12	Fine to medium SAND, trace Silt	0.0	93.2	6.8	26.4
TP-1	S-3	3.5	Medium to coarse SAND, little Gravel, trace Silt	10.8	85.6	3.6	4.0
TP-2	S-2	1.5	SILT and fine Sand	0.0	44.1	55.9	13.3
TP-4	S-1	2	GRAVEL and medium to coarse Sand, trace Silt	51.3	44.0	4.7	4.4
TP-5A	S-1	1	Fine to coarse SAND, some Silt, little Gravel	19.6	55.5	24.9	7.6
TP-6	S-2	2-3	Fine to medium SAND, some Silt	0.0	68.0	32.0	14.1
TP-9	S-2	2	Fine to medium SAND and Silt, trace Gravel	5.3	59.3	35.4	10.2
TP-13	S-3	3	Medium to coarse SAND, trace Silt	0.5	97.5	2.0	4.4

Notes:

^{1.} Refer to Appendix D for laboratory results.



		C	ZA.				Rive	er Place			Boring No.	. В	-1
	7 🗛	Ğ	oEnviron	mental, Ind Scientists	t.		Hudson, N	ew Hampshi	ire		Page:	1 of _	1
											File No.:		
	tractor:			hire Boring Smith	I, Inc.	-	Auger/	Sampler			Check:		
	eman: _		Chr			Type	Casing HSA	SS	Date	GROUNI Time	DWATER RE		Stab
	e Start/F			8-06 / 3-18-	-06			1.38 in	Date	IIIIe	Depth	Casing	Stati
						Hammer Wt.:							
GS	Elev.: _	136.0	ft Dat	tum:N	IGVD	_ Hammer Fail: _		30 in					
		Sar	nple Infor	mation		Rig Type:Die	etrich D50 Truc	ck Mounted Rig	» <u></u>				
출프					Fleid					92	Faula		.114
Depth (ft)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Test Data (ppm)	Descriptio	Sample on & Classifica		Stratum Desc.	Ë	Equipr	nent Insta	illed
									ASPHALT	1		No	
									0.5 11			quipment nstalled	
											'	Hatalieu	
5-										- 1 1			
	S-2	24/	5.0- 7.0	16-10 12-19	ND	No Recovery Auger cuttings des	scription:			2			
			'	12 10		Brown, fine to med		tle Gravel,					
-						little Silt.							
0.2													
10-	S-3	24/	10.0-	9-12	ND	 Medium dense, lig	iht brown foo						
-		16	12.0	15-16	140	SAND, some Grav		to coarse		- 11 - 1			
										- 1 - 1			
-										- 11 1			
2													
15-	S-4	24/	15.0-	17-36	ND	Very dense, light b	prown, fine to d	coarse SAND.	SAND				
ंड		22	17.0	33-53		little Gravel, trace	Silt.						
-													
1													
20													
20-	S-5	24/	20.0-	14-15	ND	Medium dense, lig	ht brown, fine	to medium		- 11 - 1			
		14	22.0	19-47		SAND, trace Silt.							
2													
25-													
I	S-6	3/ 0	25.0- 25.3	100/4"	NA	No Recovery							
- 4		_								1 1			
:=													
-													
30-	S-7 /	2/	30.0-	100/2"	NA /	No Recovery - spo	on refueal	1	20.0 5				
-	<u> </u>	0	30.2	100/2		Bottom of boring a	t 30.2 feet bel	ow ground	30.2 ft				
-						surface. Split spore	on and auger i	refusal					
-						encountered.							
-													
	1 0-11-	omel-			Ant	L	4- 0/05 :						
r I	ı. Soli s	iampies itylene-i	were scre n-air stand	ened for to lard. Total	otal volati VOCs de	le organic compour etected are reporte	nds (VOCs) us d in parts per r	sing a TEI Mode million (ppm) in	I 580B orga the "Field T	nic vapo est Data	r meter refer " column " ^h	enced to a	an tes no
E	VOC	s detect	ed.				p=to poi i		rioja i	-vu.a	Joigitiii. I	munca	
A R	∠. Mece	or Asp	hait in spo	on tip.									
R K													
ŝ													<i>1</i> 00

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

SOIL BL WELL BORING LOGS GPJ GZA_NH.GDT 4/18/06

		102	7.4				Riv	er Place				Boring No	: B	-2
	7 A	Ge	oEnviron	mental, Ind	04	1	Hudson, N	lew Hampshi	ire			Page:	1 of _	1
		En	gineers an	d Scientists								File No.:	04.00240	50.01
Con	tractor:	Ne	w Hamps	hire Boring	, Inc.	2	Auger/					Check: _	RAB	
				Smith			Casing	Sampler		GRO	DUNC	WATER R	EADINGS	
Log	ged by:			is Melby		Type:	HSA	SS	Date	Ti	me	Depth	Casing	Stab
		inish: _		7-06 / 3-17-			2.25 in							
Bor	ing Loca		_			_ Hammer Wt.:				_				
GS	Elev.: _	150.6	ft Dat	tum:N	IGVD	_ Hammer Fall:		30 in				_		
		San	nple Infon	mation		Rig Type:	trich D50 Tri	ick Mounted Rig						
£_			1		Field	<u> </u>				щ	9	Fauin	ment Insta	llod
Depth (ft)	No.	Pen./ Rec.	Depth	Blows	Test		Sample		Stratum	ι I	F	Equip	ment insta	illeu
-	110.	(in)	(ft)	(/6")	Data (ppm)	Description	n & Člassific	cation	Desc.		Remarks			
	S-1	24/	0.0-	8-7	ND	S-1A: Medium den	se, dark bro	wn, fine to	0.3 n ASPHAL 0.5 n TOPSOII	r_ /	1		No	
-		12	2.0	9-8		medium SAND, littl		little Silt.	0.5 it TOPSOII	1			quipment	
_						Topsoil S-1B: Medium den	nee light ha	wn fine to					Installed	
						medium SAND, littl	le Silt.	WII, IIIIC to						
		1												
Ī	-	1												
5-	S-2	24/	5.0-	7-7	ND	Medium dense, ligh	nt brown, me	edium to coarse						
		12	7.0	9-10		SAND, little Gravel								
										- 1				
Ī										ı				
1										- 1				
10-	S-3	24/	10.0-	7-7	ND	Medium dense, ligh	ht brown fin	e to coarse						
-		14	12.0	7-6	'''	SAND, trace Silt.	in Diomit, init	2 10 004130	SAND					
					l				SAND					
-														
15-	S-4	24/	15.0-	29-6	ND-	Medium dense, ligh	ht brown fin	e to coarse						
	J-4	13	17.0	9-10	ND	SAND, trace Silt.		e to coarse						
Ī														
-														
-														
20-	S-5	24/	20.0-	6-7	ND	Medium dense, ligi	ht heaven &-	o to conres						
	0-0	20	22.0	8-10	ן אט	SAND, trace Silt.								
								·						
Ĭ						Bottom of boring at			22.0 ft					
)	1	I	I		1	surface. No refusa	ai encounter	ea.	I		1 1			

Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an
isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no
VOCs detected.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

25-

SOIL BL WELL BORING LOGS.GPJ GZA NH.GDT 4/18/06

REMARKS

· -	GZA GeoEnvironmental, Inc. Engineers and Scientists					River F	Place			Boring N	lo.:B	3-3
C	74	Ge	oEnviron	mental, Inc	8	Hudson, New	Hampshi	ге		Page:	_1 of _	
-	(_				File No.; Check:	04.00240 RAE	
	tractor:	-		hire Boring	, Inc.	Auger/	Sampler		000111			
				Smith is Melby		_ Casing _ Type: <u>HSA</u>	SS	Date	Time		READINGS Casing	Stab
		inish: _		7-06 / 3-17-	-06	I.D.: 2.25 in	1.38 in	Date	Time	Depui	Casing	Juli
Bori	na Loca	ation: S				Hammer Wt.:						
			ft Dat		IGVD	_ Hammer Fall:	30 in					
						Rig Type: Dietrich D	50					
ا ہا		San	pte Infor	mation								
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classificatio	ЭΠ	Stratum Desc.	Remarks	Equi	pment Inst	alled
-	S-1	24/ 12	0.0- 2.0	3-9 6-4	ND	S1A: Medium dense, brown, fine to SAND, some Silt, little Organics. T S1B: Medium dense, light brown, f medium SAND, some Silt, trace Ro Subsoil	opsoil ine to	TÖPSÖIL 1.0 ft SUBSÖIL 2.0 ft	1		No Equipment Installed	
5- -	S-2	24/ 10	5.0- 7.0	3-3 10-7	ND	Medium dense, brown, medium to o SAND and Gravel, trace Silt.	coarse	SAND				,
								8.5 Tt				
10	S-3	24/ 21	10.0- 12.0	10-14 13-16	ND	Very stiff, light brown, SILT, some f	ine Sand.					z
15-	S-4	24/ 16	15.0- 17.0	5 -9 13-12	ND	Very stiff, light brown, SILT, some f Wet	ïne Sand.	SILT				
20 – -	S-5	24/ 19	20.0- 22.0	7-7 11-10	ND	Very stiff, light brown, SILT, little fir Wet	ne Sand.					
-						Bottom of boring at 22 feet below g surface. No refusal encountered.	round	22.0 ft				
25-												
R E M A R K S All de Water prese	isob VO0	utyle'ne-i Ss detec	in-air stan ted.	dard. Tota	I VOCs	tile organic compounds (VOCs) using letected are reported in parts per mile	llion (ppm) in	the "Field T	est Dat	oor meter re la" column.	eferenced to	o an cates no
All de Water prese	r level rea	idings hav	are approxir e been mad urements we	e at times and	ation lines d under co	represent approximate boundary between so iditions stated. Fluctuations of groundwater n	ii types, transitli nay occur due to	ons may be gra o other factors	iqual. (han thos	e Boring	No.: B-3	

		GZ					Riv	er Place			Boring No.:	3-4
C	74	Ge	oEnviron	mental, Inc d Scientists			Hudson, N	New Hampsh	ire		Page:1 of File No.:04.0024	1
Fore Logg Date Bori	ged by: Start/F ng Loca	Ne	ew Hamps Ken Chri 3-1 See Explo	shire Boring Smith is Melby 7-06 / 3-17- ration Loca	. Inc.	Type: LD.; Hammer Wt.: Hammer Fall:	2.25 in		Date	GROUNE Time	Check: RAI WATER READINGS Depth Casing	B
						Rig Type:		ch D50				
Depth (ft)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descript	Sample tion & Classifi	cation	Stratun Desc.	Remarks	Equipment Inst	alled
-	S-1	24/ 16	0.0- 2.0	8-4 1-2	ND	S-1A (Top 12 inc to medium SANI Topsoil S-1B (Bottom 4 i little fine Sand, to	ttle Organics. brown, SILT,	TOPSOII 1.011 SUBSOII 2.511 SILT AND F SAND		No Equipment Installed	ł	
5-	S-2	24/ 20	5.0- 7.0	3-5 7-8	ND	S-2A: Stiff, light S-2B: Brown, fir	brown, SILT a ne to coarse S	ind fine Sand. AND, trace Silt.	6.0 ft			
10-	S-3	24/ 14	10.0- 12.0	5-8 12-15	ND	Medium dense, I SAND, trace Silt		n to coarse	SAND			
15-	S-4	24/ 18	15.0- 17.0	4-5 9-9	ND	Medium dense, SAND, trace Silt		n to coarse				
20-	S-5	24/ 21	20.0- 22.0	5-10 11-16	ND	Medium dense, SAND, trace Silt		n to coarse				
25-				\$	ν.	Bottom of boring surface. No refu	j at 22 feet bel isal encounter	ow ground ed.	22.0 R			
REMARKS All determined the state of the stat	isob	samples utylene- cs detec	in-air stan	reened for t	otal volai Il VOCs d	ile organic compo letected are repor	ounds (VOCs) ted in parts pe	using a TEI Mod ir million (ppm) ii	lel 580B org	anic vapo Test Data	r meter referenced t " column. "ND" indi	o an cates no
All de Water prese	r level rea	dings hav	are approxir e been mad urements wi	e at times and	ation lines I under cor	represent approximate ditions stated. Fluctu	e boundary betwe ations of groundw	en soil types, transit ater may occur due l	ions may be g to other factors	radual. s than those	Boring No.: B-4	

		102	7.A.				Riv	er Place			Boring No.:	3-5
	7/	GZ Ge	oEnviron	mental, Inc	: .			New Hampsh		F	Page:1 of	_1_
				d Scientists		-					File No.: <u>04.0024</u> Check: RA	
	ntractor:			hire Boring	, Inc.	_	Augeri	Sampler			-1100111	
	reman:			Smith s Melby		-	Casing Auger	SS	Date	GROUNDY	WATER READINGS Depth Casing	Stab
	gged by: te Start/F			7-06 / 3-17-	-06	Type: I.D.:		1.38 in	Date	Time	Deptil Casing	Jean
						Hammer Wt.:						
	Elev.:				IGVD	Hammer Fall:		30 in				
\vdash	T	Sen	nple Infor			Rig Type:	Dietri	ch D50				
_ ۾ ا		San	ihia iiiioti	nauon	Eigle				1	100	Favilament Inc.	halla d
Depth	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descrip	Sample tion & Classifi	cation	Stratum Desc.	Remarks	Equipment Ins	called
	S-1	24/	0.0-	5-6	ND	S-1A (Top 9 inch			TOPSOIL	. 1	No	
		18	2.0	5-7		brown, fine to me little Silt. S-1B (Bottom 9	inches): Light	_	1.0 ft		Equipmen Installed	τ
						medium SAND,	iittie Siit.					
5-		04/		40.44	N/D	No di una danas	Kahi haassa <i>Ga</i>		SAND	2		25
	S-2	24/ 12	5.0- 7.0	12-14 9-18	ND	Medium dense, SAND, trace Gra						
]								8.0 ft COBBLES	3		
	-								9.0 ft	4		
10	S-3	24/ 18	10.0- 12.0	41-51 52-87	ND	Very dense, bro some Gravel, litt	wn, fine to med tle Silt.	dium SAND,	SAND AN GRAVEL			
	S-4	0/	13.2-	50/0"	 	No Recovery			13.2 ft			
15		0/ 13.2- 13.2				Auger and spoo feet below grour	n refusal enco nd surface.	untered at 13.2				
	-		¥									
20	_											
	-											
	-											
25	-											
4/18/06	1											
H GDT	-	-										
eza L	1										W 30 A22	
SOIL BL WELL BORING LOGS, GPJ GZA NH.GDT 4/18/06	isob VOC 2. Roc 3. Aug	utylene- Ss detec k lodged er encol	in-air stan ted. I in spoon intered co	dard. Tota tip. obbles at 8	II VOCs (to 9 feet	detected are report below ground sur	rted in parts per rface.	er million (ppm) i	n the "Field	Test Data"	meter referenced t column. "ND" indi	o an cates no
WELL BORIN	4. Add perf 5. Add	itional be ormed.	oring drille Cobbles	ed approximence	nately 10 ed at app	feet south. Auge roximately 9 feet	ers advanced to below ground :	surface			race. No sampling ground surface. No	sampling
All o	ter level rea	ıdings hav	are approxir e been mad urements we	e at times and	cation lines d under co	represent approximat aditions stated. Fluctu	te boundary between the bounda	en soil types, transi vater may occur due	tions may be gr to other factors	adual. than those	Boring No.: B-5	

performed.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual.

Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

		GZ	r.A.				Riv	er Place				Boring No	.: B	-6
	7	Ge	oEnviron	mental, Inc d Scientists	:•	47	Hudson, I	New Hampshi	re		-	Page:	1 of _	_1_
		Eng	gineers an	d Scientists		5 7	-	•				File No.:		
Con	tractor:	Ne	w Hamps	hire Boring	, Inc.	=	Auger/					Check: _	RAE	
Fore	man:	X	Matt	Stone		== <u>==</u>	Casing	Sampler		GRO	UNE	WATER R	EADINGS	
	ged by:		Chri	s Melby		Type:		SS	Date	Tir	me	Depth	Casing	Stab
Date	Start/F	inish: _	3-20	0-06 / 3-20-	-06	I.D.:	2.25 in	1.38 in						
Bor	ing Loca			ration Loca	tion Plan	L Hammer Wt.:								
GS	Elev.:	119.8	ftDat	tum:N	IGVD	_ Hammer Fall:		30 in						
_	ľ	San	nple Infor	mation		Rig Type:	Dietri	ch D50			_			
_ ء ا		الفح	ipte ilitori	IIIauoii	E1.1.1				ļ	L	us I	<u> </u>		l
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data	Descript	Sample tion & Classifi	cation	Stratum Desc.		Remarks	Equip	ment Insta	alled
⊢	S-1	24/	0.0-	4-5	(ppm) ND	S-1A: Medium d	iense, dark bri	own, fine to	TOPSOIL		1		No	
-	٠.	18	2.0	7-6		medium SAND,			0.5 ft				quipment	
						Topsoil			SUBSOIL				Installed	
1 -						S-1B: Medium d	lense, light bro	own, SILT, some	2.0 ft	7				
- 2						line Sand.				- 1				
2														
										- 1				
5-	1									- 1				
·														
	S-2	24/	7.0-	6-5	ND	Medium dense, I	light brown, SI	LT, some fine						
15	1	20	9.0	6-7	1	Sand.								
-	1													
10-														
l '°	S-3	24/	10.0-	5-4	ND	Loose, light brov	vn, fine SAND	, some Silt.						
-		18	12.0	5-4										
12	ł								FINE SANE /	AND				
Ι.									GIL!					
٠	İ													
15-	S-4	24/	450	5-4	ND	Loose, light brov	un fine CAND	nama Cili			2			
	3-4	24/	15.0- 17.0	6-8	IND	Loose, light brow	טוו, וווי	, some one.			-			
· ·	ĺ				1									
	1				1					- 1				
	ļ				l					- 1				
										- 1				
	l									- 1				
20-	S-5	24/	20.0-	21-24	ND	Dense, light brow	wn, SILT and i	fine Sand.						
-		19	22.0	20-10	1									
						Bottom of boring	at 22 feet be	low ground	22,0 ft		3			
-	1					surface. No refu	ısai encountei	ed.						
	1													
25-]													
25-	1													
-	1													
	-				1									
]													
	l													
	1													
-														
	1. Soil	samples	s were scr	eened for t	otal vola	tile organic compo	ounds (VOCs)	using a TEI Mod	el 580B org	anic v	vapo	r meter ref	erenced to	an
R	isob	utylene-i	in-air stan	dard. Tota	l VOCs o	letected are repor	ted in parts pe	er million (ppm) ir	the "Field"	Test I	Data	" column.	"ND" indic	ates no
E M		is detect		arad at ann	ravimata	ly 15 feet below g	round eurface	hased on soil on	molee reco	verod				
A			countered.		A OVIIIIS (6	iy io idet below g	round Sulface	vascu vii SVII Sä	mpios reco	*eieu	•.			
R	J. 400													
K														
S														

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

	/	162	'.Δ				Riv	er Place			Boring No	o.:B	-7
C	71	Ge	oEnviron	mental, Ind	c.		Hudson, N	lew Hampsh	ire		Page:	1 of _	
Fore	man: 👤	Ne	w Hamps Matt	hire Boring Stone		-	Auger/ Casing	Sampler		GROUNI	Check: _	04.00240 RAB	
			Chri	is Melby		_ Type:	HSA	SS	Date	Time	Depth	Casing	Stab
		inish:		0-06 / 3-20			2.25 in	1.38 in	-				
		ation: 🗈 111.2			NGVD	Hammer Wt.: Hammer Fall:							
33	_16V	111.2	L Dai	,um	-	Rig Type:	Dietric	h D50					
_		San	nple Infor	mation	r	9 .,,,							
Depth (#)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Field Test Data (ppm)		Sample tion & Classific		Stratum Desc.	Rem	Equip	oment Insta	alled
	S-1	24/ 14	0.0-	5-5 5-3	ND	S1A: Medium de			TOPSOIL 0.5 ft	1		No Equipment	
		14	2.0	J-3		medium SAND, : S-1B: Medium d			SUBSOIL	.		Installed	
Ī						Sand.		,	~				
-									2.5 ft				
5-	S-2	24/ 24	5.0- 7.0	6-6 6-8	ND	Medium dense, l Silt. Damp	light brown, fin	e SAND, some	SILTY SAM	(D 2			
-									8.5 ft				
10 -	S-3	24/ 20	10.0- 12.0	6-7 6-5	ND	Stiff, light brown	, SILT, little fin	e Sand. Wet					
15-	S-4	24/ 24	15.0- 17.0	7-7 6-5	ND	Stiff, light brown	, SILT, little Sa	ınd. Wet	ŞILT				
20-	S-5	24/ 24	20.0- 22.0	8-7 7-7	ND	Stiff, light brown seams, trace, fir	ne Sand. Wet						
25-						Bottom of boring surface. No refu			22.0 ft				
5 5													
RE MARKS	isob VO(utylene- Cs detec	in-air stan ted.	idard. Tota	al VOCs o	I ile organic compo letected are repor ground surface b	rted in parts pe	r million (ppm) i	n the "Field"	anic vapo Test Data	or meter re	ferenced to "ND" indic	an ates no
All de Wate	r level rea	adings hav	are approxir e been mad urements we	le at times an	cation lines d under con	represent approximat ditions stated. Fluctu	e boundary betwe lations of groundw	en soil types, transit ater may occur due	tions may be gr to other factors	adual. than those	Boring	No.: B-7	

GZ\	GZA GeoEnvironmental, Inc. Engineers and Scientists
Contractor: _	New Hampshire Boring, Inc.
Foreman:	Matt Stone

Logged by:

Date Start/Finish: _

Chris Melby

Boring Location: See Exploration Location Plan

3-20-06 / 3-20-06

River Place Hudson, New Hampshire

B-8 **Boring No.:** Page: ___1 of. File No.: 04.0024050.01

Check: Auger/ Sampler Casing **GROUNDWATER READINGS**

SS Date Stab Auger Depth Type: 2.25 in 1.38 in I.D.: 140 lb

Hammer Wt.: 30 in Hammer Falls

		Sam	ple Infor	nation		Rig Type: Dietrich D50			
(£)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classification	Stratum Desc.	Remarks	Equipment Installed
-	S-1	24/ 14	0.0- 2.0	5-3 3-3	ND	S-1A: Loose, dark brown, fine to medium SAND, some Organics, little Silt. S-1B: Medium stiff, light brown, SILT, some fine Sand.	SUBSOIL 2.5 ft	1	No Equipment Installed
5-	S-2	24/ 16	5.0- 7.0	4-3 4-4	ND	Loose, light brown, fine to medium SAND, some Silt.			
0-	S-3	24/ 18	10.0- 12.0	6-5 5-6	ND	Medium dense, light brown, fine to medium SAND and Silt. Moist			
5-	S-4	24/ 20	15.0- 17.0	13-12 15-13	ND	Medium dense, light brown, fine SAND and Silt.	SILTY SAND		
20 -	S-5	24/ 17	20.0- 22.0	10-12 14-13	ŊD	Medium dense, light brown, fine SAND and SILT. Moist		2	
25-	S-6	24/ 17	25.0- 27.0	7-7 7- 7	ND	Medium dense, light brown, SILT and fine Sand. Wet			
						Bottom of boring at 27 feet below ground surface. No refusal encountered.	27.0 ft		

1. Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCs detected.

2. Groundwater encountered at approximately 21 feet below ground surface based on soil samples recovered.

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

Boring No.: B-8

REMARKS

		GZ	'A				Riv	ver Place				Boring No	o.:B	-9
	7 🗛	Ge	oEnviron:	mental, Inc	·.		Hudson, I	New Hampsh	ire			Page:	of _	1
Fore		Ne	w Hamps Matt Chri		, Inc.	- - _ Type: .	Auger/ Casing Auger	Sampler SS	Date	GRO Tir		Check: _ DWATER R		3
		inish: _)-06 / 3-20-		I.D.: ,		1.38 in						
			ft Date		<u>tion Plan</u> IGVD	Hammer Wt.:		140 lb 30 in	-		_			
GS	=1ev.: _	147.5	u Dat	um:	IGVD	Hammer Fall: .	Dietri							
_		San	ple Infor	nation		rag Type:								
Depth (ft)	No.	(in) (n) (no") (Descript	Sample tion & Classifi	ication	Stratum Desc.		Remarks	Equip	ment Inst	alled
-	S-1				ND	Medium dense, I SAND, little Grav	ight brown, fin el, trace Silt.	e to coarse	100		1	E	No Equipment Installed	
5-	S-2	24/ 15	5.0- 7.0	12-7 9-13	ND	Medium dense, I SAND, trace Silt		ne to medium	SAND					
10-	S-3	24/ 14	10.0- 12.0	6-9 14-12	ND	Medium dense, I SAND, little Grav		ne to medium	8.5 ft — — —	.=.				
15-	S-4	24/ 18	15.0- 17.0	9-9 9-10	ND	Medium dense, I SAND, some Sill		ne to medium						
20-	S-5	24/ 22	20.0- 22.0	6-10 11-6	ND	Medium dense, SAND, some Sil		ne to medium	SILTY SAM	ND.				
25-	S-6	24/ 24	25.0- 27.0	6-7 13-15	ND:	Medium dense, SILT. Dry	light brown, fir	ne SAND and			2			
30-	S-7	24/ 20	30.0- 32.0	13-16 13-11	ND	Medium dense,	light brown, fii	ne SAND and						

Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an
isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no
VOCs detected.

Dense, light brown, fine SAND and SILT. Wet

Bottom of boring at 37 feet below ground surface. No refusal encountered.

37.0 ft

2. Groundwater encountered at 25 feet below ground surface based on soil samples recovered.

ND

12-15

19-23

SOIL BL WELL BORING LOGS.GPJ GZA, NH.GDT 4/18/06

REMARKS

35

S-8

24/

22

35.0-

37.0

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

	7-	GZ	7.A				Riv	er Place			Boring No	o.: B.	-10
	74	Ge	oEnviron	mental, Inc	č.		Hudson, N	lew Hampsh	ire		Page:	1 of .	_1_
		En	gineers an	d Scientists				•				04.00240	
Con	tractor:	Ne	w Hamps	hire Boring	, Inc.	_	Auger/				Check:	RAE	3
			Matt			-	Casing	Sampler		GROUN	DWATER R	EADINGS	
Log	ged by:		Chr	is Melby		_ Type: _	Auger	SS	Date	Time	Depth	Casing	Stab
				1-06 / 3-22		I.D.:	4.25 in	1.38 in	3/21/06	1600	20.7 ft	GS	5 minute
Bor	ing Loca	ation: 📑	See Explo	ration Loca	tion Plan	Hammer Wt.:		140 lb	3/22/06	0700	18.9 ft	GS	1 day
GS	Elev.: _	112.9	ft Dat	tum:1	IGVD	_ Hammer Fall: _		30_in	3/22/06	0830		Top PVC	
		San	nple Infor	mation		Rig Type: _	Dietrio	h D50	3/22/06 4/14/06	1520 0930	18.8 ft 19.6 ft		
Depth (ft)		Pen./			Field							GS ment Insta	23 days
De C	No.	Rec. (in)	Depth (ft)	Blows (/6")	Test Data (ppm)	Description	Sample on & Classific	ation	Stratum Desc.	Remarks		Road Bo	
	S-1	24/	0.0-	5-4	ND	Dense, dark brown	n, fine to med	ium SAND,		1			
- 1		14	2.0	10-16		some Organics, lit	ttle Silt. Tops	oil	TOPSQIL		≫	Cemer	ıt
- 3									707				
-									20 ft				
												40 PV	olid Sch
-												Riser	J 11011
5-	S-2	24/	5.0-	21-14	ND	Dense, dark brow	n finn to mad	ium CAND					
4	0-2	12	7.0	9-6	ND	little Silt, trace Gra	n, me to med ivel	ium sano,					
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					- -	Cutting	s/Backfill
15													
									SAND				
10-													
''	S-3	24/	10.0-	11-12	ND	Medium dense, gr	ay, fine to me	dium SAND,					
1		20	12.0	30-37		trace Silt. Moist				1		—11'	
- 4												Benton	ite
												13'	
_												Sand	
												14.5'	
15-	S-4	3/	15.0-	100/3"		No Recovery			15.0 ft BOULD	ERS 2			
-		0	15.3						15.5 ft				
J										1 1			
										1 1			
-													
177													
20-	S-5	24/	20.0	0.40	, up							2" ID S Sch 40	
	3-3	20	20.0- 22.0	9-10 12-20	ND	Dense, brown, fine Wet	e to coarse SA	AND, little Silt.	SAND			Well S	creen
			-2.0	12.20		1101						(0.01"	
1													
=													
-													
25											₩	-24.5	
20-						Bottom of boring a			25 0 ft	3		25'	A.
- =						surface. No refusa	al encountere	d.					
-													
1													

 Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCs detected.

Probable boulder layer encountered at 15 feet below ground surface.
 Blow in sands encountered overnight at bottom of borehole.

SOIL BL WELL BORING LOGS.GPJ GZA_NH.GDT 4/18/06

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

	4	G2 Ge	SA oFruing	mantal In-		-		er Place	iro		Boring No.: _		
	JL	En	oEnviron gineers an	mental, Inc. Id Scientists	•		Hudson, N	lew Hampsh	ııre		Page:1 File No.:04		
For	ntractor: reman: _ gged by:		Matt	shire Boring, Stone is Melby	Inc.	Type:	Auger/ Casing HSA	Sampler SS	Date		Check:	RAB DINGS	
Da	te Start/F	inish: _		2-06 / 3-22-0	06			1.38 in					
Bo	ring Loca	ation: 🚨	See Explo	ration Locat		Hammer Wt.:		140 lb					
GS	Elev.:	169.6	ft Dat	tum: N	GVD	_ Hammer Fall:_		30 in					
	Î	San	nple Infor	mation		Rig Type: .	Dietric	n D50	e	-			
ے چا		T			Field				1	1 2	Equipme	at lacto	llod
Depth (#)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Test Data (ppm)	Descript	Sample Ion & Classific	cation	Stratum Desc.	Remarks	Equipmen	iit iiista	neu
	S-1	24/ 12	0.0- 2.0	3-3 3-3	ND	S-1A: Loose, da			TOPSOI	. 1		Vo nmont	
	1	12	2.0	3-3		SAND, little Orga S-1B: Loose, bro	own, fine to me	dium SAND.	1.0 ft SUBSOII			pment talled	
	1					little Silt, trace ro			2.0 ft				
5-	\$-2	24/ 16	5.0- 7.0	4-4 3-5	ND	Loose, light brow some Silt. Dry	n, fine to medi	ium SAND,	SILTY SAM	ND			
10-	S-3	8/	10.0- \ 10.7	19-100/2"	ND	Very dense, gray Gravel, trace Silt Bottom of boring surface. Split sp encountered.	. Dry at 10.5 feet be	elow ground	10.0 tgravet	2			
15-	-												
	_												
20-													
:	-												
	-												
25-													
	-												
	-												
R E M A R K S	isob VOC	utylene-i S detecl	n-air stan led.	dard. Total	VOCs o	ile organic compo letected are report outhwest. Split sp	ed in parts per	million (ppm) i	n the "Field"	Test Data'	column. "ND	nced to " indica	an ates no
All d Water	er level rea	idings havi		e at times and		represent approximate ditions stated. Fluctua					Boring No.:	B-11	

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

		G	ZA	W100 44		-		er Place			Boring No	o.:B	-12
C	7L	G	eoEnviron	mental, Inc		-	Hudson, N	New Hampsh	ire		Page:	1 of	1
		N	ew Hamp	shire Boring		→ a	Auger/	Sampler			File No.:	RAI	В
				t Stone ris Melby		T.	Casing Auger	SS			DWATER R		
		- Finish: _		2-06 / 3-22-		Type:	2.25 in	1.38 in	3/22/06	Time 1445	Depth 3.0 ft	Casing GS	Stab 10 minu
						Hammer Wt.:			JJZZ/00	1440	J.0 It	Go	10 minu
			ft Da		IGVD	_ Hammer Fall:							
_		Con				Rig Type:	Dietric	ch D50					
2		San	nple Infor	mauon					1	1.61			
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descrip	Sample tion & Classific	cation	Stratum Desc.	Remarks	Equip	ment Inst	alled
	S-1	24/	0.0-	3-6	ND	Medium dense,				1		No	
- 2	1	'2	2.0	5-5		SAND, some Sil	t, little Organic	s. Moist	TOPSOIL	1.1		quipment Installed	
3									2.0 ft			motanco	
5-	S-2	24/ 10	5.0- 7.0	5-7 10-9	ND	Medium dense, I SAND. Moist	light brown, SIL	LT, some, fine					
10-	S-3	24/ 20	10.0- 12.0	14-17 13-16	ND	Medium dense, medium SAND a	light brown to g and Silt, little G	gray, fine to ravel. Wet	SILTY SAN	D			
15-	S-4	24/ 24	15.0- 17.0	5-6 7-12	ND	Medium dense, I fine SAND, trace	ight brown, Cla Gravel. Wet	ayey SILT and					
20-	S-5	9/	20.0- 20.8	83-50/3"	ND	Very dense, light SAND, and Clay Bottom of boring surface. Split re	ey SILT, little C at 20.75 feet b	Gravel. Wet below ground	20.8 ft	2			
25 – -													
E	VOC	utylene-i is detect	n-air stan	dard. Total	etal volati VOCs d	ile organic compo etected are report	unds (VOCs) u led in parts per	ısing a TEI Mod r million (ppm) in	el 580B orga the "Field T	nic vaporest Data	r meter refe " column. "	renced to	an ates no
vvate	tevel read	aings nave	are approximate been made irements we	at times and	ition lines r under cond	epresent approximate	boundary betwee	n soil types, transiti ter may occur due to	ons may be gra o other factors t	dual. han those	Boring N	o.; B-12	

		G	ZA				Riv	er Place			Boring No.	· E	I-13
	7L	G	oEnviron	mental, Ind Scientists	c.	-	Hudson, N	lew Hampsh	ire		Page:	1 of	1
_											File No.; _		
	tractor	Ne		shire Boring Stone	I, Inc.	-	Auger/	Sampler			Check:		
			Chri			Type: _	Casing HSA	SS	Date	GROUN	DWATER RE Depth	ADINGS Casing	Stab
	_	inish: _		3-06 / 3-23	-06			1.38 in	3/23/06	0720	12.3 ft	GS	0 minut
Bor	ing Loc	ation: 🕹	See Explo	ration Loca		L Hammer Wt.: _		140 lb	3/23/06	0825	5.6 ft	GS	1.25 hou
GS	Elev.: _	127.8	ft Dat	tum:	IGVD	_ Hammer Fall: _		30 in					
		San	nple Infon	mation		Rig Type: _	Dietric	n Dau	× ——				-
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Fleid Test Data (ppm)	Descripti	Sample on & Classific		Stratum Desc.	<u>E</u>	Equipn	nent Inst	alled
1.	S-1	24/ 10	0.0- 2.0	2-3 3-4	ND	S-1A: Loose, dar SAND, some Org S-1B: Loose, ligh SAND, some Silt.	anics, some S it brown, fine t	o medium iilt. Topsoil o medium	TOPSOIL 0.5 ft	1		No juipment nstalled	
5	S-2	24/ 22	5.0- 7.0	4-5 5-5	ND	Medium dense, lig Silt. Moist	ght brown, fine	SAND and	SILTY SAN	n			
10-	S-3	24/ 24	10.0- 12.0	8-11 10-12	ND	Medium dense, gr some Silt. Wet	ray, fine to me	dium SAND,	SILTY SAN				
15-	S-4 /	1/ 0	15.0- 15.1	\ <u>100/1"</u>	\ <u>ND</u>	Bottom of boring a surface. Split spo encountered.	No Recovery at 15.1 feet be oon and Auger	low ground refusal	15.1 11	2			
20-													
25-													
E	VOC	ityiene-ir s detecte	1-air stand ed.	lard. I otal	VOCs do	le organic compour etected are reporte tely 10 feet north.	nds (VOCs) us d in parts per	sing a TEI Mode million (ppm) in	el 580B orga the "Field T	nic vapor est Data	r meter refer ' column. "N	enced to	an ates no

SOIL BL WELL BORING LOGS GPJ GZA NH GDT 4/18/05

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

		G	ZA			:	Riv	er Place			Boring No	o.:B-	-13A
C	<i>3L</i> ,	Go	eoEnviron	mental, Ind Scientists	P.	-	Hudson, I	New Hampsh	ire		Page:	1 of	1
Co	ntractor:			shire Boring			August				File No.: _ Check:		
For	eman: _		Mat	Stone	i iiio.	.	Auger/ Casing	Sampler		GROUN	DWATER R		
			Chr			Туре:	HSA	SS	Date	Time	Depth	Casing	Stab
	e Start/F			3-06 / 3-23- ration Loca		I.D.:		1,38 in 140 lb	3/23/06	0720 0825	12.3 ft	GS	0 minute:
			ft Dat		IGVD	Hammer Wt.: Hammer Fall:			3/23/06	U023	5.6 ft	GS	1.25 hour
			nple Infor			Rig Type:		ch D50					
[환꼬					Field					lσ		4.0.4	
Depth (ff)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Test Data (ppm)	Descript	Sample tion & Classific	cation	Stratum Desc.	Rem	Equip	ment inst	alled
									0.5 ft	1	E	No quipment	
												Installed	
						Con B 12 for any	.4						
						See B-13 for soil	descriptions.						
5-													
-													
1									SILTY SAN	D			
2)													
10-									41				:=
::													
•				l)									
- 19													
70													
15	S-1	24/	15.0-	25-22	ND	Dense, gray to be	rown fine to co	Sarce SAND					•
-		14	17.0	22-35		and Gravel, little	Silt. Wet	Zarac OAND	15.5 ft				
:=									SAND AND	,			
27									GRAVEL				
-	S-2 /	1/	19.0-	100/1"		No Recovery.		7	19.1 ft				
20-		_0_/	19.1			Bottom of boring	at 19.1 feet be	elow ground	10.7 11				-
17						surface. Split speed encountered,	oon and Augei	retusal					
-													
-													
72													
25													-
-													
-													
-													
=													
T	1 Soil a	amelac	Wore see	opped for the	tal ! - t"		-1-000						
R	isobu	ylene-ir	were scre n-air stand	ened for to lard. Total	vocs de	e organic compou etected are reporte	ınds (VOCs) u ed in parts per	sing a TEI Mode million (ppm) in	el 580B orga the "Field To	nic vapoi est Data'	' meter refe ' column. "I	renced to	an ates no
м	VOCs	detect	ed.			110000000000000000000000000000000000000	•						
A R													I
K													
													- 1
All dep Water	th measur level readi	ements a	re approxim been made	ate. Stratifica	tion lines re	present approximate itions stated. Fluctuat	boundary between	n soil types, transitio	ons may be grad	iual.	D	. 6 4==	
preser	t at the tim	e measu	rements wer	e made.	- In at Maritu		w groundwal	or may occur due to	outer factors tr	an (1056	Boring No	D.: B-13A	

SOIL BL WELL BORING LOGS GPJ GZA NH.GDT 4/18/06

		l G	ZA				Riv	er Place			Boring No	.: B-	14
C		Go	oEnviron	mental, Ind Id Scientists	c.		Hudson, N	New Hampsh			Page:	1 of .	11
_		- 1 En	gineers an	a scientisis							File No.:		
				shire Boring	, Inc.	_	Auger/	Sampler			Check: _	RAE	3
Fore	eman:			Stone		_	Casing	·	25		NDWATER R		
Log	ged by:	inieh:	3-2	is Melby 3-06 / 3-23	-06	_ Type:	2.25 in	SS 1.38 in	Date	Time	Depth	Casing	Stab
						L Hammer Wt.:	2.23 111	1.30 III	·				
G\$	Elev.: _	133.3	ft Dat	tum: N	IGVD	Hammer Fall:		30 in					
						Rig Type:	Dietric	h D50					
£_		Jan	nple Infon	mation	F1.44					1.0			
Depth (ft)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descript	Sample ion & Classific	cation	Stratum Desc.	Remarks	Equip	ment Insta	lled
	S-1	24/	0.0-	2-2	ND	S-1A: Loose, da	rk brown, fine	to medium	TOPSOIL	1		No	
Ī		16	2.0	3-5		SAND, some Org S-1B: Loose, ligh	ganics, some S	Silt. Topsoil	1.2 ft			quipment	
-						0 13. 20000, ngi	in provin, timo	DAND and Oil.	SUBSOIL			Installed	
-									2.5 ft	-1			
-													
5-													
	S-2	24/ 19	5.0- 7.0	5-6 8 - 7	ND	Medium dense, li SAND, little Silt.	ight brown, fine	e to medium					
		10	7.0	0-,		SAND, IIIIE SIII.	AAGI		\$AND				
									จกหม				
1													
-4	S-3	24/	9.0-	4-6	ND	Medium dense, b	orown fine to n	nedium SAND	l.				
10-		24	11.0	6-4		little Silt. Wet		iodiani ornito,					
1.0	_					D. II	1110000000		11.0 ft	_			
-						Bottom of boring surface. No refus	at 11 feet belo sal encountere	ow ground d.	11.011	2			
							5.5.						
]													
15-													
1													
-										- 1			
=													
-													
20-													
_													
٦													
25-													
-													
+													
-													
_ 1	Soils	amples	were scre	ened for to	ital volatil	e organic compou	inds (VOCs) ii	sing a TEI Mode	580B orga	nic vard	or meter refe	renced to	an
R E	ISODU	tylene-ir	i-air stand	lard. Total	VOCs de	etected are reporte	ed in parts per	million (ppm) in	the "Field T	est Data	a" column. "I	ND" indica	tes no
м ₂		detecte g termin		to blow in/r	unnina sa	ands.							
M 2 A R		-											
K													
S													

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

SOIL BL WELL BORING LOGS.GPJ GZA NH.GDT 4/18/06

	4.1	G	ZA .					ver Place			Boring No		
6	JL,	Ge	oEnviron	mental, In ad Scientists	c.	-	Hudson, I	New Hampsh	ire		Page:		
For	eman: ,	Ne	ew Hamps Mat	shire Boring t Stone	, Inc.		Auger/ Casing	Sampler		GROUN	File No.: . Check: _ DWATER R	RA	В
				is Melby		Type:	HSA	SS	Date	Time	Depth	Casing	Stab
				3-06 / 3-23		I.D.: , ∟. Hammer Wt, ;	2.25 in	1.38 in	3/23/06	1115	3.7 ft	GS	5 minut
GS	Flev.:	133.7	ft Dat	him: N	IGVD	_ Hammer vvt.;			-				
						Ria Type:	Dietri	ch D50					
_		San	nple Infor	mation		3 71							
Depth (#)		Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descript	Sample tion & Classifi	cation	Stratum Desc.	Remarks	Equip	ment Inst	alled
8	S-1	24/ 18	0.0- 2.0	6-5 4-5	ND	S-1A: Loose, da SAND, some Sill S-1B: Loose, lig SAND, some Sill	t, little Organic ht brown, fine	s. Topsoil	TOPSOIL 0.5 ft			No Equipment Installed	
5-	S-2	24/ 18	5.0- 7.0	5-4 4-8	ND	Loose, brown, fir trace Gravel. Bottom 1 inch: L and Silt.			SAND				
- -10 -	S-3	24/ 24	10.0- 12.0	7-9 8 - 11	ND	Medium dense, t trace Silt. Wet Bottom of boring			12.0 R				
- 5-						surface.	at 12 loot ball	on giodila		2			
- -0:													
377 387 38 38													
25 - -												iz.	
N	1. Soil :	samples	were scre	eened for to	tal volati	le organic compoi	unds (VOCs) u	using a TEI Mode	el 580B orga	nic vapor	meter refe	renced to	an
E M A R K S	VUU	s detecti	ea.	to blow in/i			and the first part of the firs		and I rold II	o, Dala	ooiunii i.	HUIG	aige IIU
AAstei	tevel teat	ungs nave	re approxim been made rements wer	at times and	ation lines r under cond	epresent approximate litions stated. Fluctua	boundary betwee tions of groundwa	n soil types, transitio	ons may be grad o other factors th	fual. nan those	Boring N	o.: B-15	

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

	7	G2	7.4			Ri	ver Place		_	Boring No.	. B.	16
	77	Ğe	oEnviron	mental, Inda Scientists	e.	Hudson,	New Hampsh	nire		Page:		
Com				d Scientists shire Boring					_	File No.: _	04.00240	50.01
	tractor:		Matt		I, IIIC.	Auger/	Sampler	_				
				is Melby		Casing Type: HSA	SS	Date	ROUN	DWATER RE		Stab
Date	start/F	inish:	3-2	3-06 / 3-23	-06	I.D.: 2.25 in	1.38 in	Date	Tillie	Deptil	Casing	Stab
						Hammer Wt.:	140 lb					
GS I	Elev.: _	129.7	ft Dat	tum:h	IGVD	Hammer Fail:						
		San	nple Infor	mation		Rig Type:						
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data	Sample Description & Classifi	cation	Stratum Desc.	Remarks	Equip	nent Insta	illed
	\$-1	24/	0.0-	2-5	(ppm)	S-1A: Loose, dark brown, fine	to medium	7000011	až 1		No	
-		12	2.0	4-4		SAND, little Organics, trace Si	t. Topsoil	TOPSOIL		Ed	quipment	
2						S-1B: Loose, light brown, SIL Sand.	f, trace fine	1.0 ft SUBSOIL	-		nstalled	
5-								SAND AND SIL	т			
9	S-2	24/ 16	5.0- 7.0	6-9 6-7	ND	S-2A: Medium dense, light bro	wn, fine SAND					
3		10	,.0	0-1		and SILT. Dry S-2B: Medium dense, brown, SAND, trace Silt. Wet	fine to coarse	6.0 ft	2			
40								SAND				
10-	S-3	24/ 20	10.0- 12.0	6-9 5-6	ND	Medium dense, brown, fine to trace Silt. Wet	coarse SAND,					
						Bottom of boring at 12 feet bel- surface.	ow ground	12.0 ft	3			
15												
20-												
20-												
-												
25-												
-												
-												
R 1	Soil s	amples	were scre	ened for to	ital volatil	e organic compounds (VOCs) u	ising a TEI Mode	el 580B organi	c vapo	meter refer	enced to a	 an

isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCs detected.

Groundwater encountered approximately 6 feet below ground surface based on soil samples recovered.
 Boring terminated due to blow in/running sands.

SOIL BL WELL BORING LOGS.GPJ GZA NH.GDT 4/18/06

MARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

River Place GZA GeoEnvironmental, Inc. Boring No.: _ **B-17** Hudson, New Hampshire Page: ___1 of _ Engineers and Scientists File No.: __04.0024050.01 Contractor: New Hampshire Boring, Inc. **RAB** Check: _ Auger/ Matt Stone Sampler Foreman: Casing **GROUNDWATER READINGS** Chris Melby Logged by: HSA SS Type: __ Date Time Depth Casing 3-24-06 / 3-24-06 Date Start/Finish: 4.25 in I.D.: __ 1.38 in 3/24/06 0830 12.0 ft GS 5 minute Boring Location: See Exploration Location Plan Hammer Wt.: 140 lb 3/24/06 0930 9.7 ft Top PVC 45 minute: GS Elev.: 132.6 ft _ Datum: _ NGVD Hammer Fall: 4/14/06 30 in 1030 10.3 ft GS 21 days Dietrich D50 Rig Type: Sample Information Depth (ft) Field Pen./ Remarks **Equipment Installed** Depth Blows Test No. Sample Stratum Rec. (ft) (/6") Data Description & Classification Road box (in) Desc. (ppm) S-1 24/ ND 0.0-3-6 S-1A: Medium dense, dark brown, fine to 0.5 ft 20 6-5 2.0 medium SAND, and Silt, trace Organics. 2" ID Solid Sch Topsoil 40 PVC Well S-1B: Stiff, light brown, SILT, some fine Sand. Riser S-2 SILT Cuttings 24/ Stiff, brown, SILT, some fine Sand. 4.0-6-6 ND 20 5 6.0 5-8 6.2 **Bentonite** 7.5 ft 7.7 Filter Sand S-3 24/ 9.0-10-11 ND Medium dense, brown, fine to coarse SAND, 18 11.0 10 13-10 trace Silt. SAND 2" ID Slotted **S-4** 24/ 14.0-8-8 ND S-4A: Medium dense, brown, fine to coarse Sch 40 PVC 24 15 16.0 6-8 SAND, little Silt. Wet Well Screen S-4B: Brown, medium to coarse SAND, trace (0.01" Slot) Gravel, trace Silt. 19 Bottom of boring at 19 feet below ground 2 20 surface. 25 REMARKS

Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCs detected.

2. Boring terminated due to blow in/running sands.

WELL BORING LOGS.GPJ GZA_NH.GDT 4/18/06

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

							Div	er Place		_	_			
C	41	GZ	ZA oFmiron	mental, Inc d Scientists		-			-		_	Boring No Page:		
		En	gineers an	d Scientists	i•		Hudson, N	lew Hampshi	re	_	-	File No.:	or _ _04.00240	50.01
Con	tractor:	Ne	w Hamps	hire Boring	. inc.		Auger/					Check:		
Fore	man: _		Matt	Stone		-	Casing	Sampler		GRO	OUNI	WATER R	EADINGS	
Log	ged by:		Chri	s Melby		Type: _	HSA	<u>ss</u>	Date	Ti	me	Depth	Casing	Stab
Date	Start/F	inish: _	3-2	<u>3-06 / 3-23-</u>	-06		2.25 in		-	_				
				um: Loca		L Hammer Wt.: _ _ Hammer Fall: _			-	_		-		
001	_164					rammer ram 1 Rig Type: _	Dietric	h D50						
_		Şan	nple Infor	mation										
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Description	Sample on & Classific	ation	Stratum Desc.	ı	Remarks	Equip	ment Insta	iled
	S-1	24/ 20	0.0- 2.0	3-5 4-4	ND	Loose, light brown Silt and Organics.	n, fine to medi . Topsoil		1.0 ft SUBSOIL		1		No quipment Installed	
	S-2	24/ 20	2.0- 4.0	4-5 4-6	ND	Loose, gray, medi Silt. Wet	ium to coarse	SAND, fittle	20 ft					
5-											2			
-									SAND		-			
_														
10-	S-3	24/ 22	10.0- 12.0	3-6 6-8	ND	Medium dense, bi trace Silt.	rown, fine to n	nedium SAND,					Đ	
						Bottom of boring a surface.	at 12 feet belo	w ground	12.0 ft		3			
15-														
_														ü
-									7					
20-										22				
25-		- 2												

Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an
isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no
VOCs detected.

2. Groundwater encountered at approximately 5.5 feet below ground surface based on soil samples recovered.

3. Boring terminated due to blow in/running sands.

SOIL BL WELL BORING LOGS.GPJ GZA NH.GDT 4/18/06

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

							Rive	er Place						10
	7 🛦	GZ Ge	ZA oEnviron	mental, Inc d Scientists		-		ew Hampshi	re			Boring No Page:	1 of _	1
Con	tractor:		w Hamps	hire Boring		_	Auger/	Sampler				File No.: _		
				Stone		_	Casing	•		GRO	JUNE	WATER R	EADINGS	
Log	ged by:		Chri	s Melby		Туре:		SS	Date	Ti	me	Depth	Casing	Stab
Date	Start/F	inish: _	3-22	<u>2-06 / 3-22-</u>		I.D.:		1.38 in						
Bori	ng Loca	ition: 📑	See Explo	ration Loca	tion Plan	L Hammer Wt.: _		140 lb						
GSI	Elev.: _	149.2	ft Dat	um:N	GVD	_ Hammer Fall: _		30 in						
						Rig Type: _	Dietrici	n D50						
_		San	ple Infor	mation										
Depth (ft)	No.	Pen./ Rec. (In)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Description	Sample on & Classific	ation	Stratum Desc.		Remarks	Equip	ment insta	lled
	S-1	24/	0.0-	2-4	ND	S-1A: Loose, dark	k brown, fine to	o medium	TOPSOIL		1		No	
-		12	2.0	3-3	1	SAND, some Silt,	little Organics	. Topsoil	1.0 ft SUBSOIL				quipment	
-						S-1B: Loose, light SAND, some Silt.	t brown, fine to	medium	SUBŞOIL		.		Installed	
1-						SAND, SOME SILL			2.0 ft					
5- -	S-2	24/ 20	5.0- 7.0	12-15 16-18	ND	Medium dense, gr medium SAND, tra	ay to light brov ace Silt. Dry	wn, fine to						
-									SAND					
10-	S-3	24/ 18	10.0- 12.0	13-14 23-28	ND	S-3A: Medium de to medium SAND, S-3B: Hard, light	little SILT. D	ry						
-						Dry			11.9 ft SILT AND FI SAND	NE -				
15-	S-4	19/ 12	15.0÷ 16.6	11-42 28-50/1"	ND	Very dense, brown and Gravel, little S		coarse SAND	SAND AND GRAVEL		2			
-						Bottom of boring a surface. Split spo encountered.	at 16.5 feet be on and Auger	low ground refusal	16.5 ft					
20-														
-														
- 6														
-														
1														
25-						1								
1 34														
1														

 Soil samples were screened for total volatile organic compounds (VOCs) using a TEI Model 580B organic vapor meter referenced to an isobutylene-in-air standard. Total VOCs detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCs detected.

2. Groundwater encountered at approximately 15 below ground surface based on soil samples recovered.

REMARKS

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

	7	GZ	.A			Řiv	er Place			Boring No	o.:B	-20
	7L	Ge	oEnviron:	mental, Inc	: ,	Hudson, N	New Hampsh	ire		Page:	1 of	1
		Eng	gineers an	d Scientists						File No.:		
Con	tractor:	Ne		hire Boring	, Inc.	Auger/	Sampler			Check: _		3'
				Stone		Casing	•			WATER R		
Log	ged by:	X		s Melby	n¢.	Type: HSA	SS	Date	Time	Depth	Casing	Stab 15 minute
				1-06 / 3-24		I.D.:4.25 in	1.38 in	3/24/06 4/14/06	1145 1130	3.8 ft	GS GS	21 days
				um: N		Hammer Wt.:		4/14/00	1100	9.0 K	- 55	Z I GBy
63	EI84	_					ch D50					
		San	ple infor	mation		Mg Type:			line and the			
Depth (ft)		Pen./	D45	D1	Field	Comula		Charten	\%	Equip	ment Inst	talled
Pg `	No.	Rec. (in)	Depth (ft)	Blows (/6")	Test Data (ppm)	Sample Description & Classific	cation	Stratum Desc.	Remarks		Road bo	
	S-1	24/	0.0-	3-2	ND	S-1A: Loose, dark brown, fine		TOPSOIL	_ 1		Cuttin	gs Solid Sch
7.5		14	2.0	3-4		SAND, some Silt, little Organic S-1B: Loose, light brown, SILT	s. Topsoil Little fine	0.7 ft SUBSOIL				C Well
-						Sand, trace root fibers.	, maio into	2.0 ft			Riser	
- 54										300 LOS	2' Bento	nite
											73'	11110
ا ۔	S-2	24/	4.0- 6.0	4-3 3-4	ND	Loose, brown, fine SAND and S	SILT. Wet	SILTY SAN	D D		\4' Filter	Cond
5-		'0	0.0	J-4							riller	Sanu
I ⁻											2" (D	Slotted
-											Sch 4	0 PVC
-								7.5 ft	- 1		Well 8	Screen
											g'	Sioty
40	S-3	24/	9.0- 11.0	5-5 6-5	ND	Medium dense, brown, fine to detrace Silt. Wet	coarse SAND,	SAND			,	
10-		20	11.0	0-3		liace ont. wet						
1						Bottom of boring at 11 feet belo	ow ground	11,0 ft			11'	
-						surface. No refusal encountered	ed.					
_												
_									1.1			
								l				
15-												
- ا					1							
-								1				
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2	1											
2	1											
25-												
25-					1							
Ι,	1											
	1	1										
] -												
	1. Soil	samples	were scr	eened for t	otal vola	tile organic compounds (VOCs)	using a TEI Mod	del 580B ora	anic vapo	r meter ref	ferenced t	o an
R	isob	utylene-i	in-air stan	dard. Tota	VOCs	letected are reported in parts pe	r million (ppm) i	n the "Field"	Test Data	" column.	"ND" indi	cates no
R E M A R K S	VO	Os detect	led.									
Ā												
R K												
ŝ												
Ш			175									
All de	pth meas	urements :	are approxin	nate. Stratific e at times and	ation lines	represent approximate boundary betwee iditions stated. Fluctuations of groundware.	en soil types, transit ater may occur due	tions may be gr to other factors	adual. than those	Borles	No.: B-20	
prese			rements we			1 Mondations of Broating		The state of the s	20001167676	aoring i	11U D-ZU	

All depth measurements are approximate. Stratification lines represent approximate boundary between soil types, transitions may be gradual. Water level readings have been made at times and under conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the time measurements were made.

APPENDIX C

TEST PIT LOGS

GZA GeoEnvironme	ntal, Inc.					Test Pit No		TP-1	
Engineers/Scientists			River Place			Page No.	1	of	1
		Hudson	n, New Hampsh	ire		File No.		04.002405	0.01
380 Harvey Road						Checked By	y:	RAB	
Manchester, New Ha	mpshire 03 103		Excavation Eq	uinment					
GZA Rep.	C. Melby	Contractor	New Ham	-	ing, Inc.	Date		3/26	/2006
		Operator		fatt Stone		Ground Ele	v.		6 feet
Weather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte		08	300
4		Capacity	1.5 feet ³	Reach	10 feet	Time Comp	oleted	30	330
Depth		oil Description			Sample	PID		Boulders:	
Бериг	5	on Description			No.	Reading	Excav.	Count/	Note
						(ppm)	Effort	Class	No.
0.61	fine to medium SAND, little Sill				S-1	ND	E		1
	o coarse SAND, little Gravel, tra	ice Silt, trace Root	Fibers.		S-2	IND			
- 1,						ND	E		
2' —							Е		
- 3' —	S	AND			S-3	ND	Ē		
- 4' - Light brown	to gray, fine SAND and Silt.						Е		
- 5' —									
- 6' —	SILT	Y SAND					Е		
71							Е		
	ttom of test pit at 7 feet below gr	round surface. No	refusal encount	ered.					
- 8, —									
- 9'									
10' -									
- 11' -									
- 12' -									
- 13' -									
	screened for total volatile organ S detected are reported in parts								e-in-air
Test Pit Plan	Boulder C		Propos	tions Used		bbreviations	GROUN	DWATER	
1.5	Letter Designation Size R A B	ange Classification 6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	F = Finc M = Mediu C = Coarse		() (X)	Encountered Not Encountered	
A		6" and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	[I Time to	D7 :
NORTH Volume = <u>3.1</u> cu. yd.	Excavation EEi MM	nsy	SOME (SO.)	20 - 35% 35 - 50%	F/C = Fine GR = Gray BN = Brow	to coarse		I Time to g (Hours)	Depth to Groundwater

GZA GeoEnvironmental, Inc

GZA GeoEnvironmental,	, Inc.					Test Pit No		TP-2		
ngineers/Scientists	_		River Place			Page No.	1	1 of 1		
	-	Hudson, New Hampshire				File No.		04.002405	0.01	
30 Harvey Road Ianchester, New Hamps	him 03102					Checked By	y:	RAB		
anchester, New Hamps	mirc 03103		Excavation Eq	uinment						
ZA Rep.	C. Melby	Contractor New Hampshire Boring, I				Date		3/26	/2006	
		Operator		latt Stone		Ground Ele	v		1 feet	
Veather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte	d	08	340	
		Capacity	1.5 feet ³	Reach	10 feet	Time Comp	oleted	09	900	
Depth	So	oil Description			Sample	PID	Eugen	Boulders:	Mato	
					No.	Reading	Excav. Effort	Count/ Class	Note No.	
O 3. Dark brown Organics.	little SAND and Silt, TOPSOIL.				S-1	(ppm)		Ciass	140.	
Light brown to a	ray, SILT and fine Sand.				"	ND	Е		1	
1' -					\$-2	ND	Е			
2' —							E			
3' —							E			
4' —							E			
5' —	SILTY SAND						Е			
6' —							Е			
7' Botton	n of test pit at 7 feet below gr	ound surface. No	refusal encoun	tered.						
8' —										
9' —										
10'										
11' -										
12' -										
13' —										
otes:						L				
. Soil samples were scr	eened for total volatile organ etected are reported in parts	ic compounds (VO per million (ppm) i	CS) using a Tl n the "Field Te	EI Model 5 st Data" co	80b organic va Iumn. "ND" i	apor meter re ndicates no \	ferenced to VOCS dete	an isobutyler cted.	ne-in-air	
Test Pit Plan 8	Boulder C Letter Designation Size R	lass ange Classification	Propo	rtions Used	F = Fine	bbreviations	GROUN	DWATER		
1.5	A B	6" - 17" 18" - 36" 6" and Larger	TRACE (TR.)	0 - 10% 10 - 20%	M = Mediu C = Coarse V = Very		() (X)	Encountered Not Encountered		
↑	Excavation	_	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine	to coarse		Time to (Hours)	Depth to Groundwate	
NORTH	EEa	i\$V			GR = Gray		1.000.00	(4.00.10)		

p:\04jobs\04.0024050.00\04.0024050.01\[tplog.xls]tp-1

ne to medium SAND, trac	Hudsor	Komatsu 1.5 feet ³	uipment pshire Bori: fatt Stone Model Reach	PC 27 10 feet Sample No.	Page No. File No. Checked By Date Ground Ele Time Starte Time Comp PID Reading (ppm) ND ND	v. d bleted Excav. Effort E	138	/2006 5 feet 000 330 Note No.
C. Melby Sunny, 50s Dark brown, fine to medium SAND, trace	Contractor Operator Make Capacity Soil Description ine to medium SAND, lit ce Silt, trace Gravel with	Excavation Equation New Hamper Momatsu 1.5 feet title Organics, little	uipment pshire Bori: fatt Stone Model Reach	PC 27 10 feet Sample No. OIL S-1 0.9	Date Ground Ele Time Starte Time Comp PID Reading (ppm) ND	v. d bleted Excav. Effort E	3/26/ 138 09 09 Boulders: Count/ Class	/2006 5 feet 200 230 Note No.
C. Melby Sunny, 50s Dark brown, fine to medium SAND, trace	Contractor Operator Make Capacity Soil Description Ine to medium SAND, lit ce Silt, trace Gravel with	New Hamp Komatsu 1.5 feet ³	pshire Bori: fatt Stone Model Reach	PC 27 10 feet Sample No. OIL S-1 0.9	Date Ground Ele Time Starte Time Comp PID Reading (ppm) ND	v. d bleted Excav. Effort E	3/26/ 138 09 09 Boulders: Count/ Class	5 feet 2000 230 Note No.
C. Melby Sunny, 50s Dark brown, fine to medium SAND, trace	Contractor Operator Make Capacity Soil Description Ine to medium SAND, lit ce Silt, trace Gravel with	New Hamp Komatsu 1.5 feet ³	pshire Bori: fatt Stone Model Reach	PC 27 10 feet Sample No. OIL S-1 0.9	FID Reading (ppm)	Excav. Effort E	Boulders: Count/ Class	5 feet 2000 230 Note No.
Dark brown, fine to medium SAND, trace	Contractor Operator Make Capacity Soil Description Ine to medium SAND, lit ce Silt, trace Gravel with	New Hamp Komatsu 1.5 feet ³	pshire Bori: fatt Stone Model Reach	PC 27 10 feet Sample No. OIL S-1 0.9	FID Reading (ppm)	Excav. Effort E	Boulders: Count/ Class	5 feet 2000 230 Note No.
Dark brown, fine to medium SAND, trace	Operator Make Capacity Soil Description ine to medium SAND, lit ce Silt, trace Gravel with	Komatsu 1.5 feet ³	Model Model Reach	PC 27 10 feet Sample No. OIL S-1 0.9	FID Reading (ppm)	Excav. Effort E	Boulders: Count/ Class	5 feet 2000 230 Note No.
Dark brown, fi ne to medium SAND, trac	Make Capacity Soil Description ine to medium SAND, lit ce Silt, trace Gravel with	Komatsu 1.5 feet ³	Model Reach	Sample No. OIL S-1	Time Starte Time Comp PID Reading (ppm) ND	Excav. Effort E	Boulders: Count/ Class	Note No.
ne to medium SAND, trac	Soil Description ine to medium SAND, lit ce Silt, trace Gravel with	nie Organics, little	•	Sample No.	PID Reading (ppm)	Excav. Effort E E	Boulders: Count/ Class	Note No.
ne to medium SAND, trac	ine to medium SAND, lit ce Silt, trace Gravel with		e Şilt. TOPS	No. OIL S-1	Reading (ppm) ND	Effort E E	Count/ Class	No.
ne to medium SAND, trac	ine to medium SAND, lit ce Silt, trace Gravel with		e Şilt. TOPS	No. OIL S-1	Reading (ppm) ND	Effort E E	Count/ Class	No.
ne to medium SAND, trac	ce Silt, trace Gravel with		e Şilt, TOPS	OIL S-1	(ppm) ND	Effort E E	Class 3/A	No.
ne to medium SAND, trac	ce Silt, trace Gravel with		e Silt, TOPS	0.9'	ND	E E	3/A	
ne to medium SAND, trac	ce Silt, trace Gravel with			0.9'		E		ı
SI	LTY SAND			S-2	ND	Е		
SI	LTY SAND						2/A	
SI	LTY SAND							4
SI	LTY SAND			1	I	Е	10/ A	
SI	LTY SAND					М	5/A 2/C	
						M	3/A	
						D	2/C	
ftest pit at 7 feet belov	w ground surface, No	refusal encoun	tered					
					-			
								e-in-air
		Propor	tions Used		bbreviations	GROUN	DWATER	
Letter Designation Siz A B	ze Range Classification 6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	C = Coarse		() (X)	Encountered Not Encountered	
c =	36" and Larger	LITTLE (LI.)	10 - 20%	The state of the s		Elapsed	Time to	Depth to
E M	Easy Moderate	SOME (SO.)	20 - 35% 35 - 50%	GR = Gray BN = Brow	'n			Groundwate
	Bould Letter Designation Si A B C Excav	Boulder Class Letter Designation A Size Range Classification A 6" - 1?" B 18" - 36"	Boulder Class Letter Designation A B B B B B B B B B B B B B B B B B B	Boulder Class Letter Designation A B B B B B B B B B B B B B B B B B B	Boulder Class Letter Designation A B B B B B B B B B B B B B B B B B B	Boulder Class Letter Designation A 6"-17" B 18"-36" C 36" and Larger Exerciation Effort Exerciation E	Boulder Class Letter Designation A 6"-17" B 18"-36" C 36" and Larger Executation Effort Executation Effort E	Letter Designation Size Range Classification A 6" - 17" TRACE (TR.) 0 - 10% M = Medium () Encountered C = Coarse (X) Not Encountered (X) Not Encountered C = Coarse (X) Not Encountered (X) Not Encountere

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52	eoEnvironmental, In ers/Scientists	c.	River Place					: <u>-</u>	TP-4	
Enginee	as ocientists	-		, New Hampsh	ire		Page No1 File No.		04.0024050.01	
	vey Road	_					Checked By	/:	RAB	
Manche	ster, New Hampshir	e 03103								
GZA Re	en.	C. Melby	Contractor	Excavation Eq New Ham	•	rine. Inc.	Date		3/27	/2006
GEAL IN	ър.	O. Meloj	Operator		fatt Stone		Ground Ele	v.	157.7 feet	
Weather	r 1 <u></u>	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			35
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted	10	000
Depth			Soil Description			Sample	PID		Boulders:	
Бории			Son Description			No.	Reading	Excav.	Count/	Note
- 0 -							(ppm)	Effort	Class	No.
0.4		medium SAND, little vn, GRAVEL and med						E		l
- 11 -	Brown to right brov	vn, GRAVEL and med	ium to coarse SAND, t	race Sill,			-			
						S-1	ND	E		
- 2' -	ı							Е		
– ن3 –	2							E		
- 4' -		GRA'	VEL and SAND							
- 5' -								E		
								E		
- 6' -	Bottom of	test pit at 6.5 feet belo	w ground surface. No	refusal encour	itered.			М		
- _{7'}		•	v							
- 8,										
- 91										
- 10' -	Y									
- 11' -	Ę.									
- 12'	{									
- 13'	1									
Notes:	commiles ware source	ned for total volatile or	ganic compounds (VO	(CS) using a Ti	I Model 9	580h organio ar	mor meter re	ferenced to	an isohutulen	e-in-air
standar	d. Total VOCS dete	cted are reported in pa	rts per million (ppm) i	n the "Field Te	st Data" co	olumn. "ND" i	ndicates no 3	OCS dete	cted.	
	Test Pit Plan	l .	ler Class	Propor	tions Used	45.2	obreviations	GROUN	DWATER	
1	- B - 3	٨	ze Range Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu	m	()	Encountered	
		B C	18" - 36" 36" and Larger	LITTLE (LL.)	10 - 20%	C = Coarse		(X)	Not Encountered	
-	→	I	ation Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to (Hours)	Depth to Groundwater
	NORTH 	м	Easy Moderate	AND	35 - 50%	GR = Gray BN = Brow				
	1	D	Difficult			YEL = Yell	ow			

GZA GeoEnvii	ronmental, Inc.					Test Pit No		TP-5		
Engineers/Scie	ntists		River Place			Page No. 1 of 1 File No. 04.0024050.01				
200 II D	-4	Hudso	n, New Hampsh	ire		File No.	. ===	04.0024050 RAB	3.01	
380 Harvey Ro	ew Hampshire 03103					Checked By	/· :	ICAD		
			Excavation Eq							
GZA Rep.	C. Melby	Contractor		pshire Boring	, Inc.	Date			/2006	
Weather	Sunny, 50s	Operator Make	Komatsu	fatt Stone Model J	PC 27	Ground Elev. Time Started			7 feet 005	
weather _	Sumiy, Jos	Capacity	1.5 feet ³		0 feet	Time Comp)30	
		<u></u>	1,5 1001							
Depth	Soil	Description			Sample	PID		Boulders:		
					No.	Reading	Excav.	Count/	Note	
- 0 -	5 - 1 W	A.I.			-	(ppm)	Effort	Class	No,	
Brown	, fine to coarse SAND, some Gravel, little	e Silt.			S-1	ND	D	5/A	1	
- 1' -	CANTO 6.	CDANCI					D	10/A		
- 2' -	SAND & C	JRAVEL					D			
- 3' - Botton	of test pit at 2.5 feet below ground surfa	ice. Refusal enc	ountered on pro	bable Bedroc	k.					
- 4'										
- 5' -										
- 6' -										
- _{7'} -										
at .										
- 8' -										
- 9' -										
- 10'										
- 11'							•			
- 12'										
- 13' —										
Notes:										
	s were screened for total volatile organic	compounds (VC	DCS) using a TE	El Model 5801	b organic va	apor meter re	ferenced to	an isobutylen	ie-in-air	
standard. Tota	I VOCS detected are reported in parts per	r million (ppm)	in the "Field Te	st Data" colur	nn, "ND" i	ndicates no 🎙	VOCS dete	cted.		
Test Pit			Propor	tions Used	F = Fine	bbreviations	GROUN	DWATER		
		ge Classification i" - 17"	TRACE (TR.)	0 - 10%	M = Mediu		(_)	Encountered		
L		8" - 36" and Larger	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		(x)	Not Encountered		
₩ .	Excavation E	fort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to (Hours)	Depth to Groundwaler	
NORTH Volume ≈ 1.1 co	E Easy		AND	35 - 50%	GR = Gray BN = Brow		Keading	(8110113)	Oroungwater	
1.1 C	D Diffi		1,12,15		YEL = Yel					
GZ\) GZ	A GeoEnvironmental, Inc.	m)Odiabr)Od OO	24050 00 004 0024050	t Al\fraino vielina	S a					

Regioners/Scientists	GZA GeoEnvironn	tental Inc					Test Pit No		TP-5A		
Hudson, New Hampshire File No. Checked By: RAB				River Place			-				
Manchester, New Hampshire 03103 Sarch C. Melby Contractor Operator New Hampshire Borling, Inc. Date 3/27/2006 3/27/2006 Matt Stone Matt Stone Mott Stone Matt Stone Mott Sto			Hudson, New Hampshire							0.01	
Sunday Contractor Contrac	380 Harvey Road	J					Checked By	y:	RAB		
Contractor Con	Manchester, New I	fampshire 03103		Evaporation Eq.	ingant						
Weather Sunny, 50s Make Konatsu Model PC 27 In Solid Description Solid Solid Description Solid Description Solid Solid Description Solid	GZA Ren	C. Melby				ng. Inc.	Date		3/27	/2006	
Weather Sunny, 50s Make Capacity I.5 feet Capacity I.5 feet Capacity C	CZA Rep.	0.7.7.005				-81		v.			
Depth Soil Description Sample No. Reading Excav. Count' Note (Ignat) Effort Class No. Gray, fine to coarse SAND, some Sit, little Gravel. SAND SAND Bottom of lest pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. S-1 ND M S/A 1 D 3/C D 3/C Bottom of lest pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. S-2 - 8 - 9 - 9 - 10 - 11 - 12 - 12 - 13 - 14 - 14 - 14 - 14 - 14 - 14 - 14	Weather	Sunny, 50s		Komatsu	Model	PC 27			10	005	
No. Reading Excav. Count/ Note (ppn) and S/A 1 SAND SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. 4'-5'-6'-7'-8'-8'-9'-10'-11'-12'-13'-8'-13'-13'-13'-13'-13'-13'-13'-13'-13'-13			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	oleted	10)30	
No. Reading Excav. Count/ Note (ppn) and S/A 1 SAND SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. 4'-5'-6'-7'-8'-8'-9'-10'-11'-12'-13'-8'-13'-13'-13'-13'-13'-13'-13'-13'-13'-13	5 4		0.115			T 6	I DID		Dauldani		
Gray, fine to coarse SAND, some Silt, little Gravet. SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal encountered on probable Bedrock. Solid surface and surface. Refusal	Дери		Soil Description					Excav		Note	
Gray, fine to coarse SAND, some Silt, little Gravel. SAND S-1 ND M S/A 1 D 3/C SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock.	_ [140			
SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock 4'- 5'- 6'- 7'- 8''- 8''- 10'- 11'- 12'- 13'- Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (opm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pi Pian. D	Gray, fine t	to coarse SAND, some Silt, little	Gravel,			8.1		М	5/A	1	
SAND Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock. 4'	- 11 -					3-1	ND	141	J/A		
Bottom of test pit at 2.5 feet below ground surface. Refusal encountered on probable Bedrock 4 - 4 - 5' - 6' - 6' - 7' - 8' - 9' - 10' - 11' - 12' - 13' - 13' -	1		G.1375					D	3/C		
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pi Pian	- 2' -		SAND								
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pi Pian	Bottom of t	test pit at 2.5 feet below ground s	surface. Refusal enco	ountered on pro	bable Bedr	ock.					
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pi Pian Letter Designation Size Range Classification A 11-36 C 35° and Lange Excavation Effort Excavatio	- 3' -										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pi Pian Letter Designation Size Range Classification A 11-36 C 35° and Lange Excavation Effort Excavatio	- 4' -										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pir Plans Letter Designation Size Range Classification Size Range Classification TRACE (TR.) 0-10% M-Middium. C - Coarse V - V - V - V - V - V - V - V - V - V	7										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Proportions Used F = Fine Abbreviations F = Fine C = C C = C C = C C C = C C	- 5'										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Proportions Used F = Fine Abbreviations F = Fine C = C C = C C = C C C = C C											
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Propertions Used F - Fine - 6' - -											
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Propertions Used F - Fine											
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylenc-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pri Plan Boulder Class Letter Designation Size Range Classification A 6°-17° B 18'-36' C 36' and Larger LITTLE (LI) 10-20% M-Medium (C Coarse Coa	7' -										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylenc-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pri Plan Boulder Class Letter Designation Size Range Classification A 6°-17° B 18'-36' C 36' and Larger LITTLE (LI) 10-20% M-Medium (C Coarse Coa	- 8'										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Pit Pit Int Builder Class Fropenions Used F = Fine M = Medium F = Fine M = Medium F = Fine M = Medium C = C = Coarse C =						1					
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Pian	- 9' 										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Pian	101										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan	- 10' -										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan	- 11' -	ū									
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class A 6'-17" B 18"-36" C 36" and Larger Letter Designation Size Range Classification A 6'-17" TRACE (TR.) 0-10% M = Medium C - Coarse C - Coarse C 36" and Larger LITTLE (LI.) 10-20% F/M = Fine to medium F/M = Fine to coarse GR = Gray F/M = Fine to coarse F/M = Fine											
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Proportions Used F = Fine TRACE (TR.) 0 - 10% M = Medium C = Coarse C 36" and Larger LITTLE (LI.) 10 - 20% V - Very F/M = Fine to medium F/M = Fine to coarse G/R = Gray F/M = Fine to coarse G/R = Gray F/M = Fine to medium F/	- 12' -										
Notes: 1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Test Pit Plan Boulder Class Proportions Used F = Fine TRACE (TR.) 0 - 10% M = Medium C = Coarse C 36" and Larger LITTLE (LI.) 10 - 20% V - Very F/M = Fine to medium F/M = Fine to coarse G/R = Gray F/M = Fine to coarse G/R = Gray F/M = Fine to medium F/											
Test Pit Plan Boulder Class A 6"-17" B 1.5 B 18"-36" C 36" and Larger C 36" and Larger Excavation Effort NORTH NORT	13' -										
Test Pit Plan Boulder Class A 6"-17" B 1.5 B 18"-36" C 36" and Larger C 36" and Larger Excavation Effort NORTH NORT											
Test Pit Plan Boulder Class Brown F = Fine C = Coarse C =	Notes:										
Test Pit Plan Boulder Class Letter Designation Size Range Classification A 6 6' - 17" B 18" - 36" C 36" and Larger TRACE (TR.) 0 - 10% M = Medium C = Coarse C 36" and Larger LITTLE (LI.) 10 - 20% V = Very FM = Fine to medium F = Fine to medium FM = Fine to medium FM = Fine to coarse GROUNDWATER () Encountered (X) Not Encountered V = Very FM = Fine to medium FM = Fine to coarse GR = Gray NORTH Output Little (LI.) 10 - 20% NORTH Excavation Effort Excavation Effort Excavation Effort Output AND 35 - 50% BN = Brown										e-in-air	
Letter Designation Size Range Classification A 6" - 17" TRACE (TR.) 0 - 10% M = Medium () Encountered (X) Not Encountered	Similardi, 10tal 10	oo decered me reported in pm	s per timiton (ppin) i	11014 10			indicates its		••••		
Letter Designation Size Range Classification A 6" - 17" TRACE (TR.) 0 - 10% M = Medium () Encountered (X) Not Encountered											
Letter Designation Size Range Classification A 6" - 17" TRACE (TR.) 0 - 10% M = Medium () Encountered (X) Not Encountered											
1.5 A 6" - 17" TRACE (TR.) 0 - 10% M = Medium () Encountered (X) Not Encountered				Proport	ions Used		obreviations	GROUN	DWATER		
C 36" and Larger LITTLE (LI.) 10 - 20% V = Very F/M = Fine to medium F/M = Fine to medium F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to coarse GR = Gray Groundwate F/C = Fine to medium F/C	L	, A	6" - 17"	TRACE (TR.)	0 - 10%		n				
Excavation Effort SOME (SO.) 20 - 35% F/C = Fine to coarse GR = Gray NORTH EEasy Volume = 1.1 cu. yd. M Moderate AND 35 - 50% BN = Brown				LITTLE (LI.)	10 - 20%	V = Very	to medium			P. 4	
Volume = 1.1 cu. yd. M Moderate AND 35 - 50% BN = Brown	MODITE			SOME (SO.)	20 - 35%	F/C = Fine				Depth to Groundwater	
DDillicuit YEL = Yellow	Volume = 1.1 cu. yd.	M	Moderate	AND	35 - 50%	BN = Brow					
		D	Difficult			TEL = TEN	uw.			L	

GZA GeoEnviro	nmental, Inc.					Test Pit No		TP-6		
Engineers/Scient	ists		River Place			Page No. File No.	1	1 of 1		
		Hudson	Hudson, New Hampshire					04.0024050.01		
380 Harvey Road						Checked By	y:	RAB		
vianchester, New	Hampshire 03103		Excavation Eq	uinment						
GZA Rep.	C. Melby	Contractor	New Ham	_	ing. Inc.	Date		3/27	//2006	
—	0,1,110,	Operator		latt Stone		Ground Ele	ev.		.3 feet	
Weather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte		10	030	
:		Capacity	1.5 feet ³	Reach	10 feet	Time Comp	oleted	1	100	
					1					
Depth		Soil Description			Sample	PID		Boulders:		
					No.	Reading	Excav. Effort	Count/ Class	Note No,	
0 Brown f	ine to medium SAND, little Silt, I	ittle Organics TOPS	OII.			(ppm)	Ellon	Class	NO,	
Diown, i	me to medium parte, ittle ont, i	ittie Organies. 1015	JIL .		S-1	ND	E		l	
- 1' -						—				
Gray, fin	e to medium SAND, some Silt.						Е			
- 2'					S-2	ND	Е			
- 3' —					3-2	110				
1							E			
- 4' —						-				
							М	I/B		
- 5'										
	SILTY SAND						E	I/B		
- 6' —							Б			
							Е			
7'	Bottom of test pit at 7 feet below	ground surface. No r	refusal encount	ered.						
- 8'										
- 9' —										
10'										
11' -										
12' -										
12										
13' -										
Notes:								l		
	were screened for total volatile or	ganic compounds (VO	CS) using a TF	El Model 58	80h organic va	mor meter re	ferenced to	an isobutyler	ne-in-air	
	OCS detected are reported in par								10 111 412	
							¥2.			
Test Pit Pi: 8		er Class ze Range Classification	Propor	tions Used	F = Fine	bbreviations	GROUN	DWATER		
	1.5 A B	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	M = Medius C = Coarse	m	(X)	Encountered Not Encountered		
	č	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very	ta analitira	,	- At MINAMINARA		
	F	ation Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine		Elapsed		Depth to	
·			- Table (
NORTH Volume =3.1 cu. y	E	Easy Moderate	AND	35 - 50%	GR = Gray BN = Brow	n	Reading 5 mi	nutes	Groundwater 7 feet	

p:\04jobs\04.0024050.00\04.0024050.01\[tplog.xls]\tp-1

Manchester, New Hampshire 03103 GZA Rep. C. Melby Contractor New Hampshire Boring, Operator Matt Stone Weather Sunny, 50s Make Komatsu Model Portage Capacity 1.5 feet Reach 10	Inc.	Test Pit No. Page No. File No. Checked By	1	TP-7 of 04.002405 RAB	1			
Sunny, 50s Make Sunny Sunny	Inc.		/: <u> </u>		0.01			
GZA Rep. C. Melby Contractor New Hampshire Boring, Operator Matt Stone Weather Sunny, 50s Make Komatsu Model Po Capacity 1.5 feet Reach 10	Inc.	Checked By	<i>I</i> :	D 4 D				
GZA Rep. C. Melby Contractor New Hampshire Boring, Operator Matt Stone Weather Sunny, 50s Make Komatsu Model Portugation Capacity 1.5 feet Reach 10	Inc.							
GZA Rep. C. Melby Contractor Operator Weather Sunny, 50s Make Capacity Contractor New Hampshire Boring, Matt Stone Mate Capacity 1.5 feet Reach 10	Inc.							
Weather Sunny, 50s Operator Matt Stone Make Komatsu Model Po Capacity 1.5 feet Reach 10	mc.	Data		2/17	//2006			
Weather Sunny, 50s Make Komatsu Model Po Capacity 1.5 feet Reach 10		Date Ground Ele	.,		.5 feet			
Capacity 1.5 feet ³ Reach 10	C 27	Time Starte			110			
	feet	Time Comp			140			
Depth Soil Description	Sample	PID		Boulders:				
	No.	Reading	Excav.	Count/	Note			
0		(ppm)	Effort	Class	No.			
Dark brown, fine to medium SAND, little Silt, little Organics. TOPSOIL Light brown to gray, fine SAND, little Silt.	S-1	ND	E		1			
Light brown to gray, line SAND, little Silt.								
	S-2	ND	E					
- 2'		-						
			E					
- 3'			Е					
<u> </u>			23					
			Е					
5'								
SILTY SAND			Е					
- 6' -				-				
			E					
Bottom of test pit at 7 feet below ground surface. No refusal encountered.	1							
- 8' -								
_ gı								
, ,								
- 10' -								
- 11' -		\vdash						
- 12' -								
121								
- 13' -								
Notes:								
1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b					ne-in-air			
standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" colum	n. "ND" ii	ndicates no 1	OCS dete	cted.				
Test Pit Plan Boulder Class Proportions Used		obreviations	GROUN	DWATER				
B Letter Designation Size Range Classification 6" - 17" TRACE TR > 0 - 10%	F = Fine M = Mediur	n		Encountered				
B 18" - 36"	C = Coarse		(x)	Not Encountered				
C 36" and Larger LITTLE (L1.) 10 - 20%	V = Very F/M = Fine		Elansed	Time to	Depth to			
Excavation Effort SOME (SO.) 20 - 35%	F/C = Fine (GR = Gray	o coarse		(Hours)	Groundwater			
INDICATE EEBSY	BN = Brown							
NORTH EEasy Volume = 3.1 cu. yd. MModerate AND 35 - 50% DDifficult	YEL - Yell	DIV.						

GZA GeoEnvironme	ntal, Inc.					Test Pit No.		TP-8	
ingineers/Scientists		1	River Place			Page No.	1	of	1
		Hudsor	, New Hampsh	ire		File No.		04.002405	0.01
80 Harvey Road	-					Checked By	:	RAB	
fanchester, New Ha	impshire 03103								
17 A. D	C. Malley		Excavation Equal New Ham	-	ino ina	Date		3/27	/2006
iZA Rep.	C. Melby	Contractor Operator		fatt Stone	ing, inc.	Ground Ele	,		l feet
Veather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			240
reattier	Duiniy, 203	Capacity	1.5 feet ³	Reach	10 feet	Time Comp			305
		4-17	115 1001						
Depth		Soil Description			Sample	PID		Boulders:	
					No	Reading	Excav.	Count/	Note
0						(ppm)	Effort	Class	No.
Dark brown,	fine to medium SAND, some				S-1	ND	Е		1
1' - Light brown	, silt, some, fine Sand, trace R	oot Fibers. SUBSOIL	•						
					S-2	ND	E		
2' —						\vdash			
							E		
3' —									
41							E		
4' -							E		
5' —									
·	SI	LTY SAND					E		
6' —					1	\vdash			
							E		
7' B	ottom of test pit at 7 feet belov	v pround surface. No	refusal encount	ered.					
	mom or tost pit at 7 tool bolo	Broania sarraco. 110	1010001 01100011						
8' —									
9' —									
10' -									
11' -									
12' ~						-			
							*		
13' -									
lotes:						,			
. Soil samples were	e screened for total volatile or	ganic compounds (VC	CS) using a TI	EI Model 5	80b organic va	ipor meter re	ferenced to	an isobutyler	e-in-air
tandard. Total VO	CS detected are reported in pa	rts per million (ppm) i	n the "Field Te	st Data" co	olumn. "ND" i	ndicates no ₹	OCS dete	cted.	
Test Pit Plan	Roule	ler Class	Propor	tions Used	A	bbreviations	GROUN	DWATER	
8	Letter Designation Si	ze Range Classification	les consess		F = Fine M = Mediu			Encountered	
1.5	A B	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	C = Coarse		(x)	Not Encountered	
<u></u>	С	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	Elemen	Tima **	Danish an
NORTH		ation Effort	SOME (SO.)	20 - 35%	F/C = Fine GR = Gray	to coarse		l Time to 3 (Hours)	Depth to Groundwater
NORTH		Easy	Laver .	35 - 50%	BN = Brow		-		
olume = 3.1 cu. yd.		Moderate Difficult	AND	33 - 3076	YEL = Yell		-		

SAND, little Organ	Contractor Operator Make Capacity Description	Komatsu 1.5 feet ³	uipment pshire Boring fatt Stone Model	Sample No. S-1 S-2	Page No. File No. Checked By Date Ground Eler Time Starte Time Comp PID Reading (ppm) ND ND	v. d	13	
50s Soil SAND, little Organ	Contractor Operator Make Capacity Description	Excavation Eq New Ham Now Ham	uipment pshire Borin Matt Stone Model	PC 27 10 feet Sample No. S-1	Date Ground Eler Time Starte Time Comp PID Reading (ppm) ND	v. d eleted Excav. Effort	3/27/ 137.2 13 13 Boulders: Count/	/2006 2 feet 10 40 Note No.
50s Soil SAND, little Organ	Operator Make Capacity Description	New Ham N Komatsu 1.5 feet ³	pshire Boring fatt Stone Model	PC 27 10 feet Sample No. S-1	Date Ground Eler Time Starte Time Comp PID Reading (ppm) ND	v. d eleted Excav. Effort	3/27/ 137.3 13 13 Boulders: Count/	2 feet 10 40 Note No.
50s Soil SAND, little Organ	Operator Make Capacity Description	New Ham N Komatsu 1.5 feet ³	pshire Boring fatt Stone Model	PC 27 10 feet Sample No. S-1	Ground Eler Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	137.2 13 13 Boulders: Count/	2 feet 10 40 Note No.
50s Soil SAND, little Organ	Operator Make Capacity Description	Komatsu 1.5 feet ³	Model	PC 27 10 feet Sample No. S-1	Ground Eler Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	137.2 13 13 Boulders: Count/	2 feet 10 40 Note No.
Soil SAND, little Organ	Make Capacity Description	Komatsu 1.5 feet ³	Model	Sample No.	Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	13 13 Boulders: Count/	Note No.
Soil SAND, little Organ	Capacity Description	1.5 feet ³		Sample No.	PID Reading (ppm) ND	Excav. Effort	Boulders: Count/	Note No.
SAND, little Organ	Description		Reach	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/	Note No.
SAND, little Organ		FOPSOIL		No. S-1	Reading (ppm) ND	Effort E	Count/	No.
SAND, little Organ		FOPSOIL		No. S-1	Reading (ppm) ND	Effort E	Count/	No.
	nics, little Silt.	FOPSOIL		0.7'	(ppm) ND	E	Class	
	nics, little Silt.	ropsoil		0.7'	ND			1
Silt, trace Gravel.								
Silt, trace Gravel.				\$-2	ND	Е		
				S-2				
				1	1			
					1	E		
						E		
						Е		
						E		
SILTY	SAND					Е		
5.511								
2						E -		
t 7 feet below grou	ind surface. No.	refusal encount	arad		-			
1 / feet below grot	ind surface. No	ternsat encount	.c.cu.					
				1				
					-			
								1

001.0	7 1 117						TE 4 TY AT		TP-10	
	eoEnvironmental, Inc.		i,	River Place			Test Pit No.	-	of	1
Enginee	rs/Scientists	*		n, New Hampsh			Page No. File No.		04.002405	0.01
200 11-	Dand		nucsor	i, New Hampsh	ire		Checked By		RAB	
	vey Road ster, New Hampshire 0	12102					Checked by	· —	KAD	
Manche	ster, New Plainpstiffe 0	73 103		Excavation Equ	ioment					
GZA Re	en (C. Melby	Contractor	_	oshire Boring,	Inc.	Date		3/27	/2006
OLI I	·P' -		Operator		latt Stone	-	Ground Ele	v.		0 feet
Weather	s Sı	unny, 50s	Make	Komatsu		C 27	Time Starte			345
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Capacity	1.5 feet ³) feet	Time Comp		1	405
Depth		Soil I	Description			Sample	PID		Boulders:	
						No.	Reading	Excav,	Count/	Note
- 0 -							(ppm)	Effort	Class	No,
		dium SAND, some Silt, li				S-1	ND	Е		1
	Light brown, SILT, sor	me fine Sand.	SUI	BSOIL			110			
÷ 1' →						S-2	ND	Е		
- 2' -										
-								Е		
- 3' -										
								Е		
- 4' -								_		
							2 (E		
- 5'										
								Е		
- 6' -		SILTY S	AND							
								Е		
- 7'	Bottom of te	st pit at 7 feet below groun	nd surface. No	refusal encount	ered.					
- 81 -										
•										
- 9 -										
- 10' -							<u> </u>			
- 11' +								_		
- 12'										
131						1				
- 13'										
Notes:										
		for total volatile organic o								ne-in-air
standaro	i. Total VOCS detected	d are reported in parts per	million (ppm) i	n the "Field Les	st Data" colum	in, "ND" 1	ndicates no v	VOUS dete	ctea.	
	Test Pit Plan	Boulder Class		Proport	ions Used	T A	bbreviations	GROUN	DWATER	
		•	Classification	TRACE (TP.)	0 - 10%	F = Fine M = Medius	P11	()	Encountered	
	1.5	B 18'	- 36"	TRACE (TR.)		C = Coarse		(x)	Not Encountered	
		C 36" ar	d Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	F)	Time t-	Double to
	M MODELIA	Excavation Effe	ort	SOME (SO.)	20 - 35%	F/C = Fine : GR = Gray	to coarse	Elapsed Reading		Depth to Groundwater
Volume =	NORTH 2.7 cu. yd.	EEasy MModen		AND	35 - 50%	BN = Brow	n			
		D Diffic	ult			YEL = Yell	ow			
GZ	GZA GeoEnvironmer	ntal, Inc.	m\04iabe\04.003	4050 00004 0024050	fillftedog vfelte-l					

Test Pit No.	TP-11 1 of 1 04.0024050.01 RAB 3/27/2006 109.6 feet 1405 ed 1435
Hudson, New Hampshire File No. 380 Harvey Road Manchester, New Hampshire 03103 Excavation Equipment GZA Rep. C. Melby Contractor New Hampshire Boring, Inc. Date Operator Matt Stone Ground Elev. Weather Sunny, 50s Make Komatsu Model PC 27 Time Started Capacity 1.5 feet Reach 10 feet Time Complet	3/27/2006 109.6 feet 1405
Manchester, New Hampshire 03103 Excavation Equipment	3/27/2006 109.6 feet 1405
GZA Rep. C. Melby Contractor New Hampshire Boring, Inc. Operator Matt Stone Ground Elev. Weather Sunny, 50s Make Komatsu Model PC 27 Time Started Capacity 1.5 feet Reach Time Complet	109.6 feet 1405
GZA Rep. C. Melby Contractor Operator Weather Sunny, 50s Make Capacity Contractor New Hampshire Boring, Inc. Matt Stone Ground Elev. Capacity 1.5 feet Reach Time Complet	109.6 feet 1405
Weather Sunny, 50s Operator Matt Stone Ground Elev. Make Komatsu Model PC 27 Time Started Capacity 1.5 feet Reach 10 feet Time Complet	109.6 feet 1405
Weather Sunny, 50s Make Komatsu Model PC 27 Time Started Capacity 1.5 feet Reach 10 feet Time Complet	1405
Capacity 1.5 feet ³ Reach 10 feet Time Complet	

Denth Soil Description Sample PID	
And the second s	Boulders:
	Excav. Count/ Note
	Effort Class No.
Dark brown, fine to medium SAND, some Organics, some Silt. TOPSOIL	м 1
S-1 S-1	
Light brown, SILT, little fine Sand.	М
S-2 ND	M
3' —	V
4' —	М
	м
- 5' -	
	м
SILT	
	M
Bottom of test pit at 7 feet below ground surface. No refusal encountered.	
Donom of test press / tool below growns out to related into an interest of	
- 8' -	
- 9' -	
- 10' -	
- 11' -	
- 12'	
13' -	
Notes:	
1. Soil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter refer	
standard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VO	CS detected.
Test Pit Plan Boulder Class Proportions Used Abbreviations	GROUNDWATER
8 Letter Designation Size Range Classification F = Fine 6" 17" TRACE (TR.) 010% M = Medium	() Encountered
I.5 B 18" - 36" C = Coarse	(X) Not Encountered
F/M = Fine to medium	Elapsed Time to Depth
Excavation Effort SOME (SO.) 20 - 35% F/C = Fine to coarse	Reading (Hours) Grounds
Volume = 3.1 cu. yd.	
GZA GeoEnvironmental. Inc.	

GZA Ge	oEnvironmental, Inc	Z.						Test Pit No.		TP-12	
	rs/Scientists				River Place			Page No.		of	1
8					n, New Hampsh	ire		File No.		04.002405	0.01
380 Har	vey Road		-		,			Checked By	/: ——	RAB	
	ster, New Hampshire	03103							-		
					Excavation Eq	uipment					
GZA Re	p	C. Melby		Contractor		pshire Boria	ng, Inc.	Date		3/27	/2006
				Operator		fatt Stone	<u> </u>	Ground Ele	ν.		I feet
Weather		Sunny, 50s		Make	Komatsu	Model	PC 27	Time Starte			140
	-	•		Capacity	1.5 fcet ³	Reach	10 feet	Time Comp			505
				1		-		•		-	
Depth			Soil D	escription			Sample	PID		Boulders:	
.				•			No.	Reading	Excav.	Count/	Note
								(ppm)	Effort	Class	No.
- 0 -	Dark brown, fine to	medium SAND. I	ittle Silt. litt	le Organics.	TOPSOIL		S-1				
0.51	Light brown, SILT,						_	ND			1
- ı: -											
							S-2	ND			
- 2' -											
- 3'											
_ 1											
- 4' -			SILT								
4.5	Light gray, fine to m	edium SAND, lit	tle Silt.				S-3	ND			
- 5' -		,									
- 6' -			SANI)							
- 7' -	Bottom of	test pit at 7 feet b	elow groun	d surface. No	refusal encount	ered.	-				
	2000000	toos pit at 7 tool C	oton ground		TOTAL OTTO CALL	0.04.					
- 8, —											
- 9' -											
- 10' -											
- 11' 🚽											
- 12' -								_	-		
- 13' -											
Notes:											
	samples were screen	ad for total volati	le organic co	mnounde (VC	CS) using a TE	I Model 58	Ob organic va	nor mater re	faranced to	an isobutular	o-in-air
	. Total VOCS detec										ic-iii-aii
			parto per ti	The state of the s					000 4111		
	Test Pit Plan		Boulder Class		Propor	tions Used	At	breviations	GROUN	DWATER	
	8	Letter Designation		Classification	TRACE CERT	0 100/	F = Fine	_		C	
	1.5	A B		17" - 36"	TRACE (TR.)	0 - 10%	M = Mediur C = Coarse	п	(x)	Encountered Not Encountered	
_		С	36" and	Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium			
	▼	E	Excavation Effor	1	SOME (SO.)	20 - 35%	F/C = Fine		Elapsed Reading		Depth to Groundwater
	NORTH 3.1 cu. yd.		EEasy MModerat	e	AND	35 - 50%	GR = Gray BN = Brown	n	- Caunig	()	C. Juna (Valo)
· vimile	2.2 4m Jan		D Difficul		19159950	22 - 2018	YEL = Yell				
	CZA C - F- :										

GZA G	oEnvironmental, Inc	 c,					Test Pit No	·.	TP-13	
	rs/Scientists		1	River Place			Page No.	1	of	1
			Hudson	ı, New Hampsh	ire		File No.		04.002405	0.01
	vey Road						Checked B	y:	RAB	
Manche	ster, New Hampshire	e 03103								
67 A D		C. Mallan		Excavation Equ	-	: t	Data		207	17006
GZA Re	ър.	C. Melby	- Contractor Operator	New Hamp	latt Stone	ing, inc.	Date Ground Ele			/2006 9 feet
Weather		Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			10
, y outston			Capacity	1.5 feet ³	Reach	10 feet	Time Comp			25
			. ,		8					
Depth		So	il Description			Sample	PID		Boulders:	
						No.	Reading	Excav.	Count/	Note
- 0 -		11 0.1370 016	U 0 1 n	TO DO C 17			(ppm)	Effort	Class	No.
		medium SAND, some Silt medium SAND and SILT		TOPSOIL		0.4° S-1	ND	Е		1
- 11 -	Light brown, line to		SAND			S-2				
1.5	Brown, medium to c	coarse SAND, trace Silt.	BAND			1.5'	ND	Е		
- 2' -		, , , , , , , , , , , , , , , , , , , ,						_		
_ ,.						S-3	ND	E		
- 3'								E		
- 4'										
·								E		
- 5'								_		
		\$ 4	AND					E		
- 6' 		SF								
ŀ	Bottom of	test pit at 6.5 feet below gr	ound surface. No	refusal encoun	tered.	_		E		
- 7'		6 9 .								
01										
- 8,										
- 91										
´										
- 10'										
- 11' -							-			
- 12' -										
- 13'										
,,]										
Notes:		-4 (4-4-1	1- (VO	OC) weign - TE	T N 4 - J - 1 6	00h:-		£ 4	!	_ ii_
		ed for total volatile organicted are reported in parts p								e-m-air
		, , , , , , , , , , , , , , , , , , ,								
	Test Pit Plan	Boulder Cla Letter Designation Size Rai	iss nge Classification	Proport	ions Used	F = Fine	obreviations	GROUN	DWATER	
Γ	1.5	A	6" - 17"	TRACE (TR.)	0 - 10%	M = Medius	n	()	Encountered	
Į.			18" - 36" ' and Larger	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		(X)	Not Encountered	
4		Excavation 1	Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to	Depth to
	NORTH 2.8 cu. yd.	EEas MMo	у	AND	35 - 50%	GR = Gray BN = Brow		Reading	(tronts)	Groundwater
, ordine -	2.0 cc. yc.	D Dif		CANADA I	DV - 4476	YEL = Yell				
CAN	GZA GeoEnviron	mantal Inc								

GZA Geol	Environmental, Inc			Test Pit No.						
Engineers/	/Scientists	<u> </u>		River Place			Page No.	1	of	1
			Hudsor	ı, New Hampsh	ire		File No.		04.0024050	0.01
380 Harve							Checked By	:	RAB	
Manchesto	er, New Hampshire	: 03103								
L				Excavation Eq	-		5.		2/27	2006
GZA Rep.		C. Melby	Contractor		pshire Borir Iatt Stone	ng, Inc.	Date Ground Elev	. 75		/2006 l feet
W-adhan		Sunny, 50s	Operator Make	Komatsu	Model	PC 27	Time Starte			30
Weather		Suthly, Jos	- Capacity	1.5 feet ³	Reach	10 feet	Time Comp			000
			Cupacity	1.5 (00)	_		Time comp			
Depth		So	il Description			Sample	PID		Boulders:	
			,			No.	Reading	Excav.	Count/	Note
							(ppm)	Effort	Class	No.
0 Da	ark brown, fine to me	dium SAND, some Silt, little (Gravel TOPSOIL			0.3' S-1				1
Or	range brown, fine to r	medium SAND and SILT.				S-2	ND	E		1
- I' —		SILTY	SAND			3-2	ND	Е		
- 2' - G	ray, fine to medium	n SAND, little Silt.					1,10	ы		
4						S-3	ND	Е		
- 3' —						"	L	_		
,								E		
- 4' -										
								E		
- 5' —		SA	AND		-		-			
						E				
- 6' -	Bottom of	test pit at 6 feet below gro	aund surface. No.	refisal encoun	ered	-				
	Dottom of	test pit at o feet below giv	June Juniace. 140	1010501 01100011	.orea.					
- 7' 										
- 8' -										
- 9 ¹ -										
10' -										
11' -										
12'										
12										
13'										
]										
Notes:						.a				
I. Soil sa	imples were screen	ed for total volatile organi- cted are reported in parts p	c compounds (VC	CS) using a Ti	st Dote" col	ob organic vi	apor meter rei Indicates no N	ierencea (d IOCS dete) an isobutyten eted	ie-in-air
standard.	Total VOCS detec	ited are reported in parts p	er minon (ppm)	it title Tried Te	si Data Coi	ulini. ND i	mateutes no v	OCO delle	otou,	
T	Test Pit Plan	Boulder Cla	155	Propo	tions Used	19200	bbreviations	GROUN	NDWATER	
	8	Letter Designation Size Rai	nge Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu	ım	()	Encountered	
	1.5	В	18" - 36"			C = Coarse		(x)	Not Encountered	
		C 36	" and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	[]	A Winner	Death
	<u> </u>					W. L.				
	A CAPTU	Excavation l		SOME (SO.)	20 - 35%	F/C = Fine	to coarse		l Time to g (Hours)	Depth to Groundwater
No Volume =	ORTH 2.6 cu. yd.		y derate	SOME (SO.)	20 - 35% 35 - 50%		to coarse			

GZA Ge	oEnvironmental, Inc						Test Pit No.		TP-15	
	rs/Scientists		1	River Place			Page No.	1	of	1
			Hudsor	ı, New Hampsh	ilre		File No.		04.0024050	0.01
	vey Road ster, New Hampshire	03103					Checked By	r	RAB	
Manche	ster, New Frampshire	03103		Excavation Eq	uipment					
GZA Re	p.	C. Melby	Contractor	•	pshi re B ori	ng, Inc.	Date		3/28/	2006
			- Operator	N	fatt Stone		Ground Ele) feet
Weather		Sunny, 50s	- Make	Komatsu	Model	PC 27	Time Starte			15
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted	07	35
Depth		Soi	l Description			Sample	PID		Boulders:	
·						No.	Reading	Excav.	Count/	Note
- 0 -							(ppm)	Effort	Class	No.
Ť	Dark brov	wn, fine to medium SAND	, some Silt, little	Organics. Top	soil	S-1	ND	Е		1
- ı'	Light brown, fine SA	ND and Silt				S-2				
	Englis orowin, since or						ND	Е		
- 2' -								E		
- 3' -		SILTY	SAND							
- 4 ¹ 4,3 ¹								E		
l k	Gray, fine to medium	SAND, some SILT				4.3' S-3	ND	Е		
- 5' -		42	ND					Е		
- 6' -						Е				
- _{7'} -	Bottom of to	est pit at 6.5 feet below gro	ound surface. No	refusal encour	ntered.					
						15				
- 8'										
_ 9 [,] _										
- 10' -										
- 11' -								-		
- 12'										
- 13'										
13 _										
Notes:					+	-1	L	_		l———
1. Soil s		d for total volatile organic								e-in-air
standard	l. Total VOCS detect	ted are reported in parts pe	r million (ppm) i	n the "Field Te	st Data" co.	lumn. "ND" i	ndicates no \	OCS dete	cted.	
	Test Pit Plan	Boulder Cla		Propos	tions Used	F = Fine	obreviations	GROUN	DWATER	
	1.5	Α _	ge Classification 6" - 17" 8" - 36"	TRACE (TR.)	0 - 10%	M = Mediu C = Coarse	π	() (X)	Encountered Not Encountered	
			and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	, .	Ti	Ph. sale e-
	NORTH	Excavation E		SOME (SO.)	20 - 35%	F/C = Fine GR = Gray			Time to (Hours)	Depth to Groundwater
	NORTH 2.8 cu, yd.	EEasy MMod	erate	AND	35 - 50%	BN = Brow				
		DDiff	icuit			YEL = Yell	ow			

GZA G	ZA GeoEnvironmental, Inc.					Test Pit No. TP-16				
Enginee	ers/Scientists			River Place			Page No.	1	of	1
ellers.			Hudson	, New Hampsh	ire		File No.		04.002405	0.01
	vey Road						Checked By	:	RAB	
Manche	ster, New Hampshire	03103								
		G 14 II		Excavation Eq	•	·			2.02	/200 <i>c</i>
GZA R	ер.	C. Melby	Contractor		pshire Borin	ig, Inc.	Date	9		/2006
11 t 4 l	_	Commer 60a	Operator		fatt Stone	DC 27	Ground Elev. Time Started			5 feet 73.5
Weather		Sunny, 50s	Make Capacity	Komatsu 1.5 feet ³	Model Reach	PC 27 10 feet	Time Started			300
			Capacity		Keacii —	10 1001	Time Comp	leteu		100
Depth		Soil	Description			Sample	PID		Boulders:	
						No	Reading	Excav.	Count/	Note
							(ppm)	Effort	Class	No.
- 0 -	Dark brown, fine to	medium SAND, some Silt, li	ttle Organics. T	OPSOIL		S-1		Е		1.1
0.8'						D,8'	ND	E		1, 2
יו –	Light brown, fine SA	ND and SILT.				S-2	ND	Е		
- 2' _{2.2} '		SILTY S	AND				110			
						2.2		Е		
- 31 -	Light brown, fine to	medium SAND, little Silt.								
								·Ε		
- 4' -										
						S-3	ND	E		
- 5' -										
								E		
- 6' -										
								E		
7' -	Bottom of	test pit at 7 feet below groun	nd surface. No i	efusal encount	ered.					
- 8, -										
- 9' -										
7										
- 10' -										
- 11' -										
- 12' -							-	-		
- 13'										
Notes:										
1. Frost	t encountered.									
		ed for total volatile organic o								e-in-air
standaro	 Total VOCS detect 	ted are reported in parts per	million (ppm) ir	the "Field Te	st Data" colu	umn. "ND" i	ndicates no V	OCS dete	cted.	
	Test Pit Plan	Boulder Class		Proper	tions Used		obreviations	GROUN	DWATER	
	8	Letter Designation Size Range	Classification			F = Fine		G.		
	1.5		- 17" ' - 36"	TRACE (TR.)	0 - 10%	M = Medius C = Coarse	m.	() (X)	Encountered Not Encountered	
	†		nd Larger	LITTLE (LL.)	10 - 20%	V = Very F/M = Fine	to medium			
		Excavation Effe	ort	SOME (SO.)	20 - 35%	F/C = Fine		Elapsed Reading	Time to (Hours)	Depth to Groundwater
	NORTH 3.1 cu. yd.	EEasy MModer	alc	AND	35 - 50%	GR = Gray BN = Brow				
		D Diffici		Contract of the contract of th		YEL = Yell				
GZ	GZA GeoEnvironn	nental, Inc.								

GZA Geol	Environmental, Inc	·					Test Pit No		TP-17	
	Scientists		I	River Place			Page No.	1	of	1
			Hudson	i, New Hampsl	nire		File No.		04.002405	0.01
380 Harve	y Road er, New Hampshire	02103					Checked By	/:	RAB	
viancheste	er, New Hampshire	03103		Excavation Eq	ninment					
GZA Rep.		C. Melby	Contractor		pshire Bori	ng, Inc.	Date		3/28	/2006
•		· · · · · · · · · · · · · · · · · · ·	Operator		Matt Stone		Ground Ele	v.	135.	8 feet
Weather		Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			315
			Capacity	1.5 feet ³	Reach .	10 feet	Time Comp	leted	08	345
Depth		Sc	oil Description			Sample	PID		Boulders:	
			F			No.	Reading	Excav.	Count/	Note
0					· ·		(ppm)	Effort	Class	No.
0.5		medium SAND, little Silt,	little Organics. T	OPSOIL		0.5' S-1	ND	Е		1
- 1' — Li	ght brown, fine SA	AND and Silt.								
		SILT	Y SAND			S-2	ND	Е		
- 2' - G r	ray, fine to mediun	n SAND, little Silt.				_				
- 3' —								E		
,]							ND	E		
4' -										
						S-3		Е		
- 51 —								Е		
. 6'		S/	AND					ь		
١ ١								Е		
7'	Bottom of	test pit at 7 feet below gr	ound surface. No	refusal encoun	tered.	_				
	Dollow 01	desi più ao i rece coro ii gi			.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
8' —										
. 9' 🗕										
10' -										
11' -										
12' -										
13'									· -	
Notes:										
		ed for total volatile organi								e-in-air
tandard.	Total VOCS detec	ted are reported in parts p	er million (ppm) ii	n the "Fleid 1e	st Data" co	lumn. "ND" II	ndicates no v	OCS dete	cted,	
Te	est Pit Plan 6	Letter Designation Size Ra	ass: nge Classification	Propo	rtions Used	F = Fine	breviations	GROUN	DWATER	
	1.5	A	6" - 17"	TRACE (TR.)	0 - 10%	M = Medius	n	() (X)	Encountered Not Encountered	
_		B C 36	18" - 36" " and Larger	LITTLE (LI.)	10 - 20%	V = Very	•= -==at ·	(^)	, rot Encountered	
-	→	Excavation		SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to (Hours)	Depth to Groundwate:
/olume =	ORTH 2.3 cu. yd.	EEag MMo		AND	35 - 50%	GR = Gray BN = Brow				
_		DDi				YEL - Yell				

GZA G	eoEnvironmental, Inc						Test Pit No.		TP-18	
55	ers/Scientists	Χ]	River Place			Page No.	1	of	1
		· · · · · · · · · · · · · · · · · · ·	Hudson	n, New Hampsh	ire		File No.		04.002405	0.01
	vey Road						Checked By	'i	RAB	
Manche	ster, New Hampshire	03103		Excavation Equ	vinment					
GZA R	ep.	C. Melby	Contractor	New Ham	-	ing, Inc.	Date		3/28	/2006
	()		Operator		fatt Stone		Ground Ele	v.	126.	5 feet
Weather	8	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			345
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted	09	20
Depth		Sc	oil Description			Sample	PID		Boulders:	
Dopui	=		2 45477711011			No.	Reading	Excav.	Count/	Note
- 0 -	Dark brown, fine to	medium SAND, little Silt	, little Organics. T	OPSOIL			(ppm)	Effort	Class	No.
								Е		1
- 11 -	Brown, fine to media	um SAND, some Silt.								
						S-1	ND	Е		
- 2'): 							E		
- 3'		SILT	Y SAND					<u> </u>		
J								E		
- 4' 	Black, Organic Peat,	trace Root Fibers								
	Diner, Olganie i eur	, made record records.						M		
- 5,		p	EAT			S-2	ND	М		
- 6'			DAI				ND	141		
	Pottom to	st pit at 6.5 feet below gro	and surface. No.	reflect encount	arad	_		M		
- 7' -	Bottom te	ng worse reer c.o is nd re	Juliu Sullace. INO I	erusar encount	cicu.					
01										
- 8'										
- 91 —										
- 10'										
- 1P ÷	0									
11	5									
- 12'	91									
- 13'										
Notes:	,	16. 4.43 . 1.421	4- (2/0	voevi Tr	T M - J - L &	DOL		Caramand to	on icohustulan	- i- 4i-
		ed for total volatile organicted are reported in parts p								IC-111-811
	Test Pit Pian	Boulder C	nee	Depres	tions Used	1 41	breviations	GROUN	DWATER	
i	7	Letter Designation Size Ra	nge Classification	77		F = Fine				
	1.5	A B	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	M = Mediur C = Coarse	n	(X)	Encountered Not Encountered	
	←		i" and Larger	LITTLE (LL.)	10 - 20%	V = Very F/M = Fine		Elansed	Time to	Depth to
	NORTH	Excavation E Et		SOME (SO.)	20 - 35%	F/C = Fine t GR = Gray		Reading	(Ношз)	Groundwater
Volume =	2.5 cu. yd.	MMo DDi	oderate	AND	35 - 50%	BN = Brown YEL = Yell		5 mi	nutes	5.4 feet
	GZA GeoEnvirone									

GZA Geol	Environmental, Inc.							Test Pit No		TP-19	
Engineers/		250		River Place				Page No.	1	of	1
		_	Н	udson, New Har	pshire		_	File No.		04.002405	0.01
	80 Harvey Road Manchester, New Hampshire 03103							Checked B	/:	RAB	
Mancheste	er, New Hampshire	03103		Evenyation	Equipment						
GZA Rep.		C. Melby	Contrac		Equipment Sampshire B			Date		3/28	/2006
ОВИТОР			Operato		Matt Stor		_	Ground Ele	v.	127.	7 feet
Weather	S	lunny, 50s	Make	Komats	u Model	PC 27		Time Starte	d	09	920
	1		Capacit	y 1.5 fc	Reach	10 fee	t	Time Comp	leted	10	010
						La					
Depth			Soil Descriptio	n			imple No.	PID Reading	Excav.	Boulders: Count/	Note
1						- 1 '	140.	(ppm)	Effort	Class	No.
- 0 - Da	ark brown, fine to m	edium SAND, littl	e Silt, little Organi	cs. TOPSOIL			S-1				
0.8'						0.8		ND	E		1
- 1' - Gr	ray and brown, fine	SAND and Silt. M	loist					ND	Е		
- 2'							S-2	110	ь		
									E		
- 3'								-			
									E		
- 4'									r.		
_ =:									E		
- 5' -			SILTY SAND						E		
- 6' -											
				19.1		- 1			E		
- 7' -	Bottom of te	est nit at 7 feet hel	ow ground surface.	No refusal enc	nuntered.	_			_		
		,	.								
- 8' -											
- 91 -											
()											
- 10'											
- 11' -											
12/											
- 12' -											
- 13' -						- 1					
Notes:										1	
	mples were screened	for total volatile	organic compounds	s (VOCS) using	a TEI Mode	l 580b orga	anic va	por meter re	ferenced to	an isobutyler	ıe-in-air
	Total VOCS detecte										
rp.	est Pit Plan	no	ulder Class		oportions Used	· 1	Al	breviations	GROUN	DWATER	
		Letter Designation	Size Range Classification	n	ra emperarina venna	F=	Fine				
	1,5	A B	6" - 17" 18" - 36"	TRACE (T		c =	Mediur Coarse	п	(x)	Encountered Not Encountered	
	†	С	36" and Larger	LITTLE (L	l.) 10 – 20%	F/M		to medium	Planeed	Time to	Depth to
NC	I ORTH		avation EffortEasy	SOME (SC	.) 20 - 35%		= Fine (= Gray	o coarse		(Hours)	Groundwater
	3.1 cu, yd.	N	Moderate	AND	35 - 50%	6 BN	= Brown L = Yello				
_			Difficult			102					

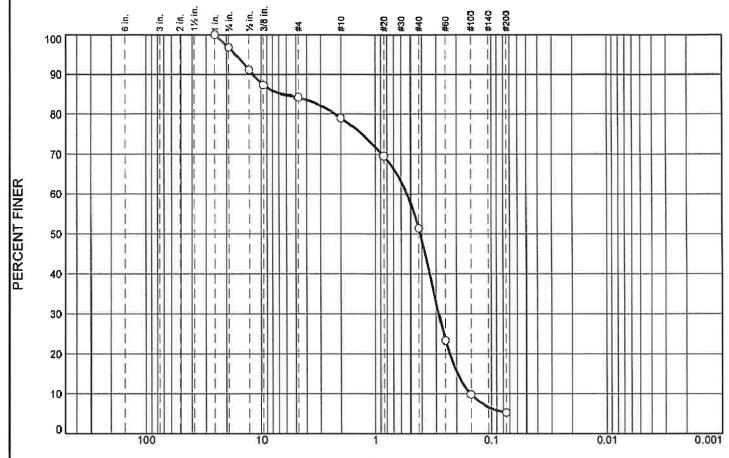
OZA Gast	Environmental, Inc						Test Pit No.		TP-20	
Engineers/		•	I	River Place			Page No.	- 1	of	ī
		_	Hudson	ı, New Hampsh	ire		File No.		04.0024050.01	
380 Harve	100000	00100					Checked By	/:	RAB	
Mancheste	er, New Hampshire	: 03103		Excavation Eq	uinment					
GZA Rep.		C. Melby	Contractor	-	pshire Bori	ng, Inc.	Date		3/28/	2006
	-	•	Operator		fatt Stone		Ground Ele	v.	133.2	2 feet
Weather	4	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			15
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted	11	40
Depth			Soil Description			Sample	PID		Boulders:	
J 0,			1			No.	Reading	Excav.	Count/	Note
- 0 -							(ppm)	Effort	Class	No.
0.7' Da	ark brown, fine to	medium SAND, little	Silt, little Organics. T	OPSOIL		S-1	ND	E		1
- l' - Li	ght brown to gray,	, fine SAND and Silt.	Moist					E		
- 2' -								E		
- 3' - - 4' -								E		
- 5'	SILTY SAND						ND	E		
	2.2.1.0,1.1.2							E		
- 6' -								E		
7'	Bottom of	test pit at 7 feet belov	v ground surface. No	refusal encoun	tered.					
- 8, -										
- 9¹										
- 10' -										
- 11'				3						
- 12'										
- 13'										
Notes:										
I. Soil sa	mples were screen Total VOCS detec	ed for total volatile or sted are reported in pa	ganic compounds (VC rts per million (ppm) i	OCS) using a TI n the "Field Te	EI Model 5 st Data" co	80b organic va Ilumn. "ND" i	ipor meter re indicates no	ferenced to VOCS dete	an isobutylen ected.	e-in-air
Т	est Pit Plan		ler Class	Propor	rtions Used		bbreviations	OROUN	DWATER	
	1.5	Letter Designation Siz A B	ze Range Classification 6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	F = Fine M = Medius C = Coarse	m	(X)	Encountered Not Encountered	
	1	C Excave	36" and Larger	SOME (SO.)	10 - 20% 20 - 35%	V = Very F/M = Fine F/C = Fine			Time to	Depth to Groundwater
Volume =	ORTH 2.7 cu. yd.	E M	Easy Moderate Difficult	AND	35 - 50%	GR = Gray BN = Brow YEL = Yell			nutes	4.8 feet
	GZA GooFaviron		Dimeur			11.55-161				

GZA GeoEnvironme	ntal Inc					Test Pit No.		TP-21	
Engineers/Scientists	mai, mc.		River Place			Page No.	<u> </u>	of	1
5	 -		n, New Hampsh	ire		File No.		04.0024050	
880 Harvey Road						Checked By) -	RAB	
Manchester, New Ha	mpshire 03103								
			Excavation Eq	-					
GZA Rep.	C. Melby	Contractor	New Ham		ing, Inc.	Date			2006
		Operator	-	latt Stone		Ground Elev			7 feet
Weather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Started			15
		Capacity	1.5 feet ³	Reach	10 feet	Time Compl	etea	- 10	50
Depth		Soil Description			Sample	PID		Boulders:	
Dept.ii	•	oon Description			No.	Reading	Excav.	Count/	Note
						(ppm)	Effort	Class	No.
O Dark brown,	fine to medium SAND, little Si	It, little Organics. T	TOPSOIL		0.5° S-1				
0.5		·			0.5	ND	E		1
Light brown,	SILT, some fine Sand. Moist						Е	1C	
2'							1.4	10	
4							Е		
3'									
					S-2	ND	E		
· 4' —					3-2	-			
							E		
5' —		SILT							
							Е		
6' —							D.		
6.8					6.8'		E		
7' - Bot	tom of test pit at 6.8 feet below	ground surface. No	refusal encour	itered.					
8' —									
91 —									
10' -									
11' -									
12' -									
13' -									
lotes:									
	screened for total volatile orga S detected are reported in parts								e-in-air
ianuaru. Total VOC	o detected are reported in parts	рег илинон (ррш) і	n die Field (e	פו המומ הס	ոպուս, ND 11	idicates NO A	OCD GEIG	oiou,	
Test Pit Plan	Boulder		Propor	tions Used		breviations	GROUN	DWATER	
8	Letter Designation Size I	Range Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Medium	n	(X)	Encountered	
L	В	18" - 36" 36" and Larger	LITTLE (LL.)	10 - 20%	C = Coarsc V = Very		()	Not Encountered	
↑		_			F/M = Fine		Elapsed	Time to	Depth to
NORTH	Excavation E		SOME (SO.)	20 - 35%	F/C = Fine t GR = Gray		Reading	(Hours)	Groundwater
olume = 3.0 cu. yd.	MI	Moderate Difficult	AND	35 - 50%	BN = Brown YEL = Yelk		5 mi	nutes	6.7 feet
	D	Jane Will		- 5	Trab-Tem	WAY!	-		

GZA Ge	eoEnvironmental, Inc.						Test Pit No.		TP-22	
	rs/Scientists			River Place			Page No.	1	of	1
			Hudsor	ı, New Hampsh	ire		File No.		04.0024050).01
	vey Road						Checked By	"	RAB	
Manche	ster, New Hampshire	03103		Excavation Equ	.!					
GZA Re	un.	C. Melby	Contractor	New Hamp	•	ng Inc	Date		3/28/	2006
uza ke	.р.	C. Meloy	Operator		latt Stone		Ground Ele	v		3 feet
Weather	•	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			15
	•		— Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted	11	40
				() 						
Depth		So	oil Description			Sample	PID		Boulders:	
- 1						No.	Reading	Excav.	Count/	Note
0	Deals bearing fine to a	nedium SAND, little Silt,	little Organica T	OBCOLL		8.1	(ppm)	Effort	Class	No.
	Brown fine to mediu		Intie Cirganies 1	CIPSCIII		0,4'S-1	ND			1
- 1' -	Diowii filic to filedidi	ii 3AND, iitile Siit								
							ND		1/C	2
- 2' 🚽		SA	AND						1	
,										
3' -						3.4'	ND			
4' -	Dark brown, fine to r	nedium SAND, little Silt,	, trace Organics (V	Vood pieces).	S.	AN S-2	,,,,			
4.3'			Color cha	unge		\dashv				
· 5' —	Brown, fine to mediu	CAND arrow Cile		Ü					-	
	Brown, fine to medic	·	AND				ND			
6'6.2'			11115			6,2'				
1	Gray, SILT, little, fir	e Sand. Moist		SILT			ND			
7' -	Bottom of	test pit at 7 feet below gro	ound surface. No	refusal encount	ered.					
, _]										
- 8' -										
ا بو .										
.										
10' -										
11' -										
12' -										
13' -										
'3]										
Notes:										
		d for total volatile organi ted are reported in parts p								e-in-air
		at approximately 2 feet b			st Data Col	iutilii. ND 1	nutcates no v	OCS dete	eteu,	
. ivieta	ii debris encountered	at approximately 2 feet o	elow ground surfa	ce.						
	Test Pit Plan	Boulder Cl		Propor	ions Used		bbreviations	GROUN	NDWATER	
-	8	Letter Designation Size Ra A	inge Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu		()	Encountered	
	1,		18" - 36"			C = Coarse V = Very		(X)	Not Encountered	
]	3	B C 36		LITTLE	10 - 20%	V - Verv				
	3	C 36	" and Larger	LITTLE (LL.)	10 - 20%	F/M = Fine			d Time to	Depth to
	NORTH 6.2 cu. yd.		i" and Larger Effort sy	SOME (SO.)	20 - 35%		to coarse		d Time to g (Hours)	Depth to Groundwater

APPENDIX D

LABORATORY TESTING



GRAIN SIZE - mm.

	0/ 43!!		% Grav	% Sand			% Fines	
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines	
	0.0	0.0	12.8	8.2	15.8	39.9	18.0	5.3

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
- 3	1	100.0		
	3/4	96.7		
	1/2	91.0		
	3/8	87.2		
	#4	84.3		
	#10	79.0		
	#20	69.5		
	#40	51.4		
	#60	23.3		
	#100	9.8		
	#200	5.3		
	0			
	ŀ			

Material	Description
MICHELIER	Description

Brown, fine to coarse SAND, some Gravel, trace Silt.

D₈₅= 6.5298 D₆₀= 0.5332 D₅₀= 0.4127 D₃₀= 0.2865 D₁₅= 0.1971 D₁₀= 0.1525 C_u= 3.50 C_c= 1.01

USCS= SP-SM Classification AASHTO= A-3

Remarks

(no specification provided)

Sample Number: S-3 Source of Sample: B-1

Depth: 10-12 ft.

Date:

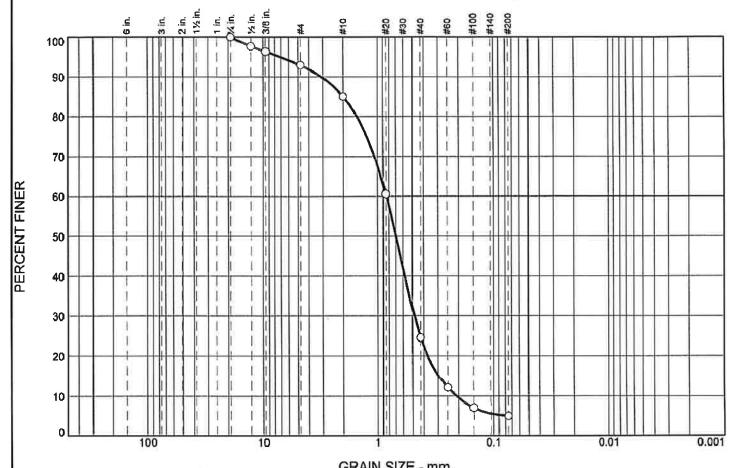
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Project: River Place Hudson, NH

Manchester, NH Project No: 24050.01





				JKAIN SI	<u> </u>		
87 . 50	% Gravel			% Sand			% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	76 FINES
0.0	0.0	3.7	11.3	43.3	29.5	7.2	5.0

ſ	ŞIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
ſ	3/4	100.0		
-	1/2	97.6		
- 1	3/8	96.3		
-	#4	92.9		
-1	#10	85.0		
- 1	#20	60.5		
-	#40	24.6		
- 1	#60	12.2		
	#100	7.0		
	#200	5.0		
-				
-				
-				
-				

Material Description Brown, medium to coarse SAND, little Gravel, trace Silt.							
PL=	Atterberg Limits	PI=					
D ₈₅ = 1.9957 D ₃₀ = 0.4810 C _u = 4.02	Coefficients D60= 0.8406 D15= 0.2993 C _c = 1.32	D ₅₀ = 0.6956 D ₁₀ = 0.2091					
USCS= SP-SM	USCS= SP-SM AASHTO= A-1-b						
	Remarks						

(no specification provided)

Sample Number: S-2 Source of Sample: B-2

Depth: 5-7 ft.

Date:

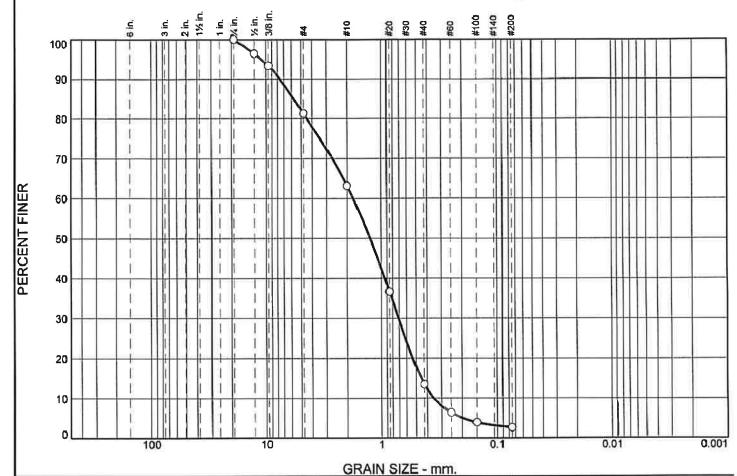
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Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



SIEVE	PERCENT	SPEC.*	PASS?
ŞIZE	FINER	PERCENT	(X=NO)
3/4	100.0		
1/2	96.3		
3/8	93.3		
#4	81.3		
#10	63.1		
#20	36.7		
#40	13.5		
#60	6.3		
#100	3.9		
#200	2.7		

Coarse

0.0

1	Material Description							
Brown, medium	Brown, medium to coarse SAND and Gravel, trace Silt.							
	Atterberg Limits							
PL=	LL=	PI=						
D ₈₅ = 5.7652 D ₃₀ = 0.7099 C _u = 5.01	Coefficients D ₆₀ = 1.7718 D ₁₅ = 0.4515 C _c = 0.80	D ₅₀ = 1,2577 D ₁₀ = 0.3539						
USCS= SP	Classification AASHT	O= A-1-b						
	Remarks							

(no specification provided)

Sample Number: S-2 Source of Sample: B-3

% +3"

0.0

Depth: 5-7 ft.

% Gravel

Fine

30.2

Medium

6.7

Date:

% Fines

2.7

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% Sand

Medium

17.6

Fine

3.6

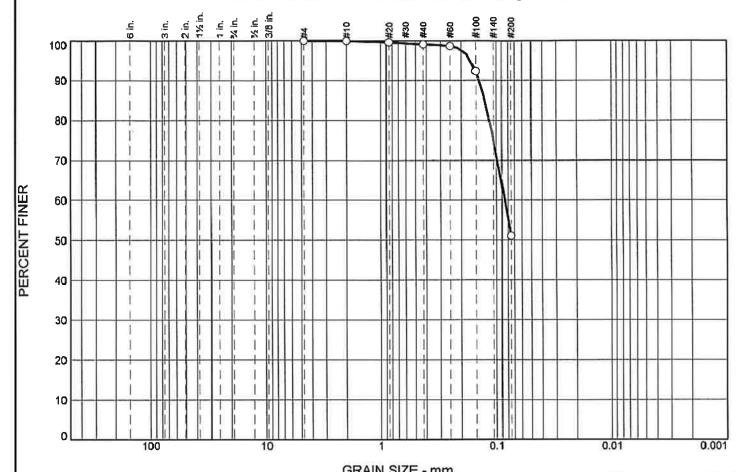
Coarse

39.2

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Manchester, NH

Project No: 24050.01



				DIVAIN OF	LL - 111111	-2	
0/ .70	% Gravel			% Sand		% Sand % Fines	
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Filles
0.0	0.0	0.0	0.1	0.6	0.7	47.5	51.1

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
#4	100.0		
#10	99.9		
#20	99.6		
#40	99.0		
#60	98.6		
#100	92.1		
#200	51.1		

Brown, SILT and	Material Description d fine Sand,	on
PL= .	Atterberg Limits	! PI=
D ₈₅ = 0.1265 D ₃₀ = C _u =	<u>Coefficients</u> D ₆₀ = 0.0849 D ₁₅ = C _c =	D ₅₀ = D ₁₀ =
USCS= ML		O= A-4(0)
	<u>Remarks</u>	

(no specification provided)

Sample Number: S-2A Source of Sample: B-4

Depth: 5-6.8 ft.

Date:

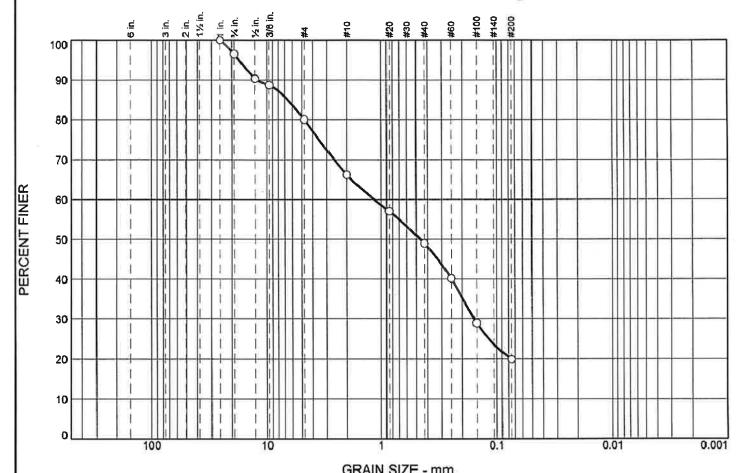
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Manchester, NH

Project No: 24050.01



0/ 1/01/		% Gravel % Sand		% Sand			0/ Elean
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	11.3	22,6	12.9	13.1	20.3	19.8

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
Î	1	100.0		1
	3/4	96.5		
	1/2	90.3		
	3/8	88.7		
- 1	#4	80.0		
	#10	66.1		
	#20	57.0		
	#40	48.9		
	#60	40.1		
	#100	28.9		
	#200	19.8		

	Material Description	
Brown, fine to n	nedium Sand, some G	ravel, little Silt.
PL=	Atterberg Limits	PI=
D ₈₅ = 6.5879 D ₃₀ = 0.1587 C _u =	Coefficients D60= 1.1538 D15= C _c =	D ₅₀ = 0.4621 D ₁₀ =
USCS= SM	Classification AASHT	O= A-1-b
	<u>Remarks</u>	

(no specification provided)

Sample Number: S-3A Source of Sample: B-5

Depth: 10-12 ft.

Date:

GZA GeoEnvironmental, Inc.

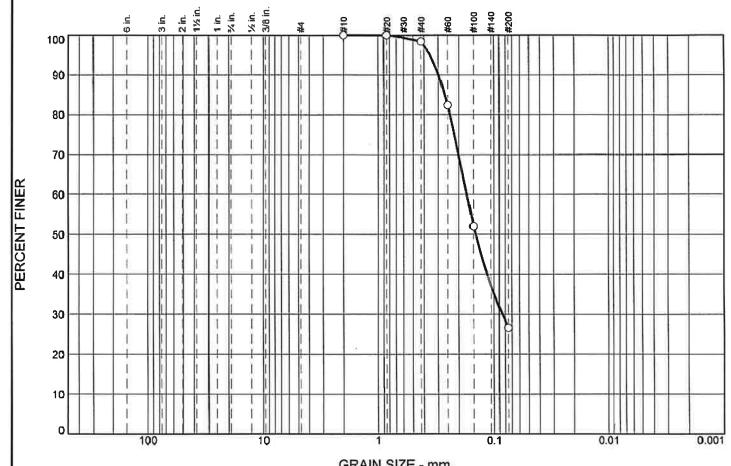
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





	GRAIN SIZE - IIIII.						
0/ 1011		% Grav	el	% Sand		% Sand	
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	0.0	0.0	0.7	16.9	55.8	26.6

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
#10	100.0		
#20	100.0		
	98.3		
	82.4		
#200	26.6		
	SIZE #10	#10 100.0 #20 100.0 #40 98.3 #60 82.4 #100 52.0	#10 100.0 #20 100.0 #40 98.3 #60 82.4 #100 52.0

	Material Description Medium SAND, some	
PL=	Atterberg Limits	PI=
D ₈₅ = 0.2641 D ₃₀ = 0.0846 C _u =	Coefficients D ₆₀ = 0.1721 D ₁₅ = C _c =	D ₅₀ = 0.1445 D ₁₀ =
USCS= SM	Classification AASHT	O= A-2-4(0)
	Remarks	

(no specification provided)

Sample Number: S-2 Source of Sample: B-8

Depth: 5-7 ft.

Date:

GZA GeoEnvironmental, Inc.

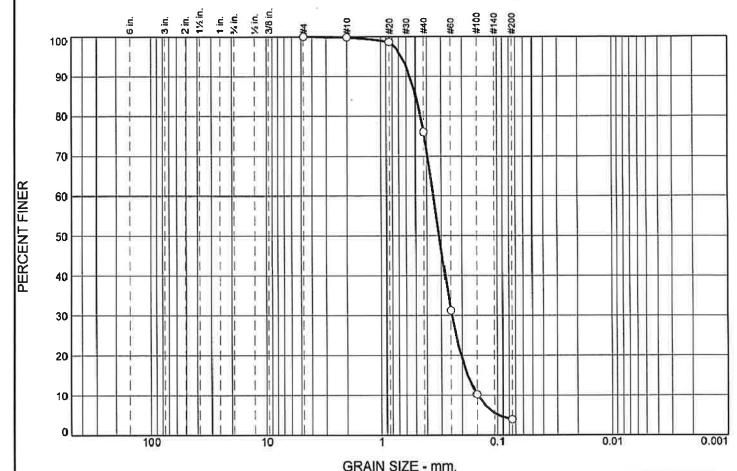
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Project No: 24050.01





0/ + 211		% Grav	el		% Sand		% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	/6 Filles
0.0	0.0	0.0	0.2	7.2	61.4	27.3	3.9

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
#4 #10	100.0 99.8		
#20 #40	98.6 75.9		
#60 #100	31.2 10.1		
#200	3.9		
			R

	Material Description nedium SAND, trace Si	
PL=	Atterberg Limits	PI=
D ₈₅ = 0.4944 D ₃₀ = 0.2456 C _u = 2.35	Coefficients D60= 0.3500 D15= 0.1809 Cc= 1.16	D ₅₀ = 0.3134 D ₁₀ = 0.1489
USCS= SP	Classification AASHTO)= A-3
	Remarks	

(no specification provided)

Sample Number: S-2 Source of Sample: B-9

Depth: 5-7 ft.

Date:

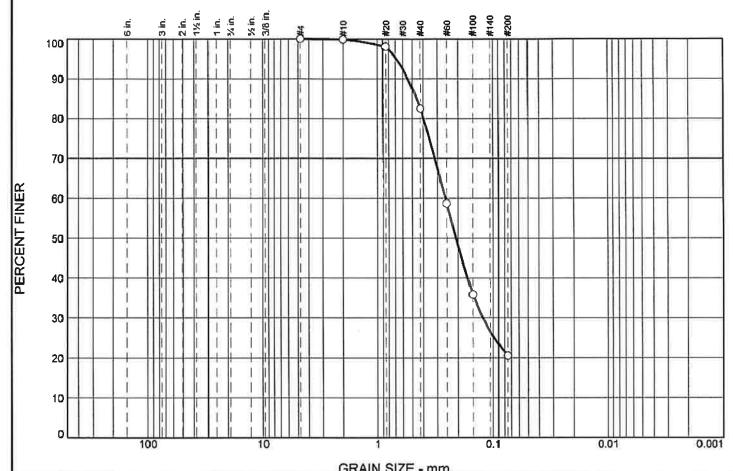
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Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



g/ . gu		% Gravel		% Sand			P/ Since	
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines	
0.0	0.0	0.0	0.1	7.5	33.7	38.2	20.5	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
#4	100.0		
#10	99.9		
#20	98.0		
#40	82.4		
#60	58.7		
#100	35.8		
#200	20.5		

	Material Descriptior nedium SAND, some S				
PL=	Atterberg Limits LL=	PI=			
D ₈₅ = 0.4579 D ₃₀ = 0.1237 C _u =	Coefficients D ₆₀ = 0.2567 D ₁₅ = C _c =	D ₅₀ = 0.2092 D ₁₀ =			
USCS= SM	Classification AASHTC)= A-2-4(0)			
<u>Remarks</u>					

* (no specification provided)

Sample Number: S-2 Source of Sample: B-11

Depth: 4-6 ft.

Date:

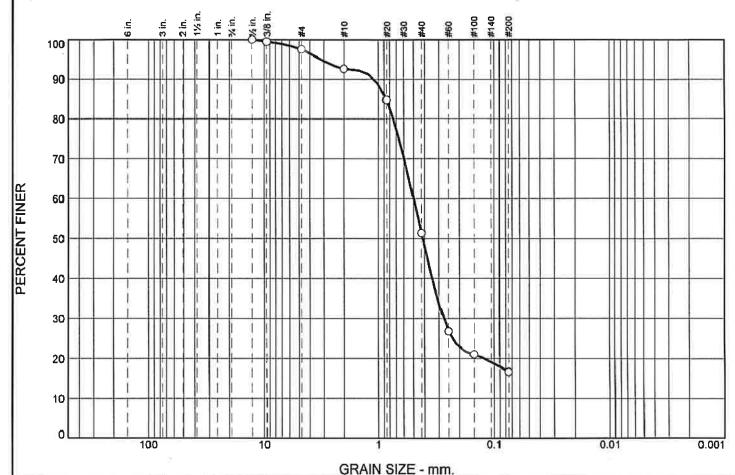
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Manchester, NH

Project No: 24050.01



0/ . 20		% Gravel		l % Sand		0/ Fines	
% +3"	Coarse Medium Fine	Fine	Coarse	Medium	Fine	% Fines	
0.0	0.0	0.5	7.0	22.3	43.4	10.2	16.6

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X≃NO)
	1/2	100.0		
	3/8	99.5		
	#4	97.5		
	#10	92.5		
	#20	84.7		
	#40	51.3		
	#60	26.8		
	#100	21.1		
Ш	#200	16.6		
Ы				
	}	į.		
Ш				

Material Description Brown, fine to coarse SAND, little Silt, trace Gravel.						
PL=	Atterberg Limits	PI≃				
D ₈₅ = 0.8574 D ₃₀ = 0.2756 C _u =	Coefficients D ₆₀ = 0.4958 D ₁₅ = C _c =	D ₅₀ = 0.4150 D ₁₀ =				
USCS= SM	<u>Classification</u> AASHT	O= A-2-4(0)				
	Remarks					

(no specification provided)

Sample Number: S-2 Source of Sample: B-15

Depth: 5-7 ft.

Date:

GZA GeoEnvironmental, Inc.

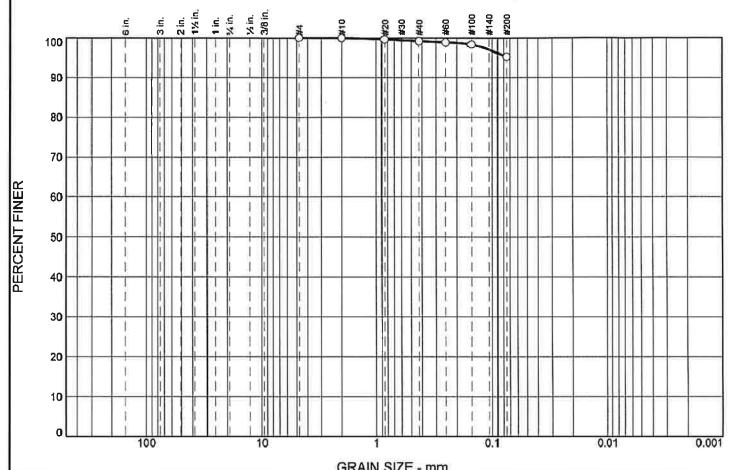
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





ORAIN SIZE - HIII.							
0/ +311		% Gravel		% Sand			% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	0.0	0.0	0.6	0.6	3.6	95.2

ĺ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	#4 #10 #20 #40 #60 #100 #200	99.6 99.2 98.8 98.3 95.2	PERCENT	(X=NO)

Material Description Brown, SILT, trace fine Sand.						
PL=	Atterberg Li	mits PI=				
D ₈₅ = D ₃₀ = C _u =	Coefficien D ₆₀ = D ₁₅ = C _c =	D ₅₀ = D ₁₀ =				
USCS= ML	USCS= ML Classification AASHTO= A-4(0)					
<u>Remarks</u>						

* (no specification provided)

Sample Number: S-1B Source of Sample: B-16

Depth: 0-2 ft.

Date:

GZA GeoEnvironmental, Inc.

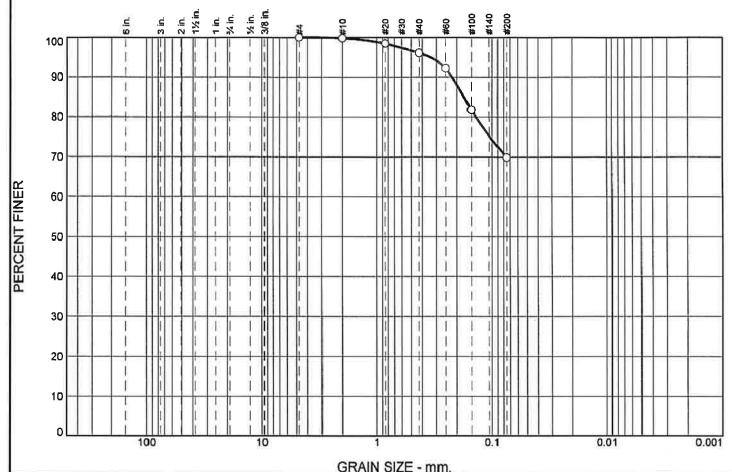
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





0/ . 311		% Gravel		% Sand			0/ Finns
% +3"	Coarse	Medium	Fine	Coarse	Medlum	Fine	% Fines
0.0	0.0	0.0	0.2	2.5	5.1	22.4	69.8

S	IEVE	PERCENT	SPEC.*	PASS?
\$	SIZE	FINER	PERCENT	(X=NO)
	#4	100.0		
	#10	99.8		
1 1	#20	98.4		
;	#40	96.0		
,	#60	92.2		
	[‡] 100	81.6		
#	200	69.8		
ŀ				
1				

Material Description Brown, SILT, some fine Sand.					
PL=	Atterberg Limit	ts. Pl=			
D ₈₅ = 0.1747 D ₃₀ = C _u =	Coefficients D ₆₀ = D ₁₅ = C _c =	D ₅₀ = D ₁₀ =			
USCS= ML	Classification AASh	I ITO= A-4(0)			
<u>Remarks</u>					

* (no specification provided)

Sample Number: S-2B Source of Sample: B-17

Depth: 4-6 ft.

Date:

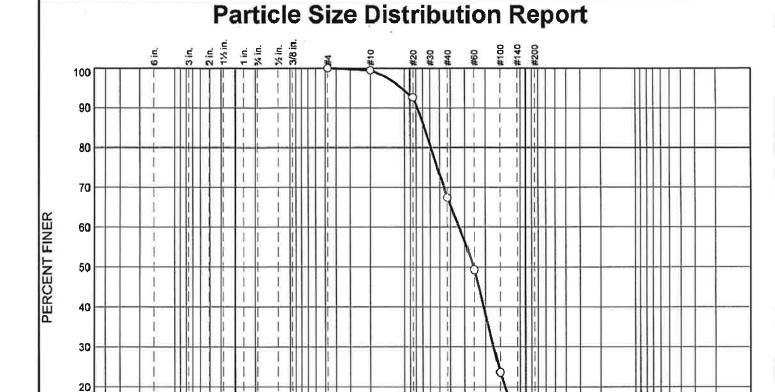
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Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GRAIN SIZE - mm

				I WIN OILL	1111111.		
0/ . 20	% G	ravel	% Sand			% Fines	
% +3"	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.5	32.1	60.6	6.8	

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X≃NO)
#4	100.0		
#10	99.5		
#20	92.6		
#40	67.4		
#60	49.3		
#100	23.6		
#200	6.8		

Material Description additional SAND, trace S	
Atterberg Limits	Pl≕
Coefficients D ₆₀ = 0.3367 D ₁₅ = 0.1167 C _c = 0.95	D ₅₀ = 0.2538 D ₁₀ = 0.0922
Classification AASHT0)=
<u>Remarks</u>	
	Atterberg Limits LL= Coefficients D60= 0.3367 D15= 0.1167 Cc= 0.95 Classification AASHTO

(no specification provided)

Sample Number: S-3 Source of Sample: B-18

10

Depth: 10-12 ft

Date:

GZA GeoEnvironmental, Inc.

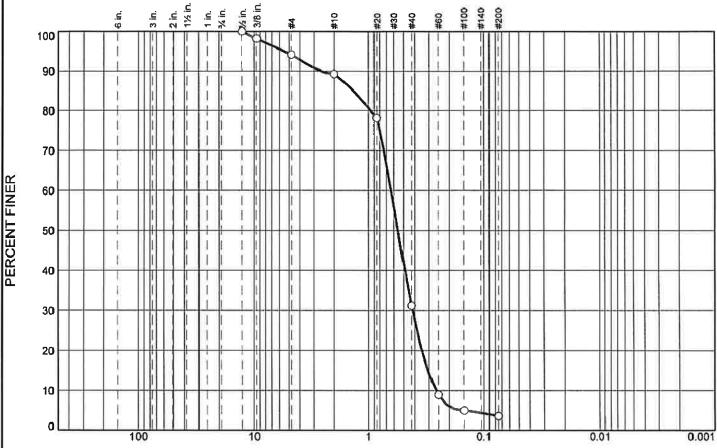
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





				GRAIN SI	ZE - mm.						
0/ 199	% Gravel		% Gravel		vel % Sand		% Sand		% Sand		9/ Fi
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines				
0.0	0.0	1.9	8.9	33.2	47.1	5.3	3.6				

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	1/2	100.0		
	3/8	98.1		
	#4	94.1		
	#10	89.2		
	#20	78.2		
	#40	31.2		
	#60	8.9		
	#100	5.0		
	#200	3.6		
ı	*			

Material Description Brown, medium to coarse SAND, little Gravel, trace Silt.						
PL=	Atterberg Limits LL=	PI=				
D ₈₅ = 1.3608 D ₃₀ = 0.4167 C _u = 2.42	Coefficients D ₆₀ = 0.6336 D ₁₅ = 0.3082 C _c = 1.05	D ₅₀ = 0.5535 D ₁₀ = 0.2623				
USCS= SP	<u>Classification</u> AASHT	O= A-1-b				
	<u>Remarks</u>					

* (no specification provided)

Sample Number: S-3 Source of Sample: TP-1

Depth: 3.5 ft.

Date:

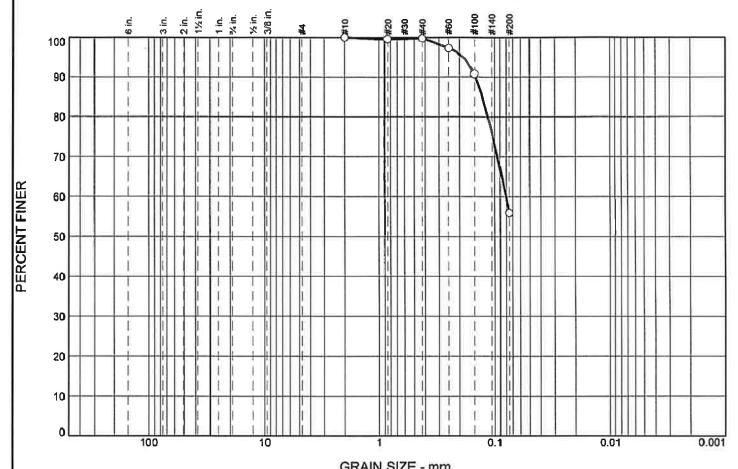
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GRAIN SIZE - IIIIII.							
9/ . 211	% Gravel		% Sand			0/ Fines	
% +3"	Coarse Medium Fine	Fine	Coarse	Medlum	Fine	% Fines	
0.0	0.0	0.0	0.0	0.4	2.4	41.3	55.9

Γ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	#10	100.0		
	#20	99.6		
- 1	#40	99.7		
	#60	97.2		
	#100	90.7		
	#200	55.9		
-1				
L				

SILT and fine Sa	Material Description and.	o <u>n</u>
PL=	Atterberg Limits LL=	PI=
D ₈₅ = 0.1277 D ₃₀ = C _u =	Coefficients D ₆₀ = 0.0802 D ₁₅ = C _c =	D ₅₀ = D ₁₀ =
USCS= ML	Classification AASHT	O= A-4(0)
	<u>Remarks</u>	
		3E

(no specification provided)

Sample Number: S-2 Source of Sample: TP-2

Depth: 1.5 ft.

Date:

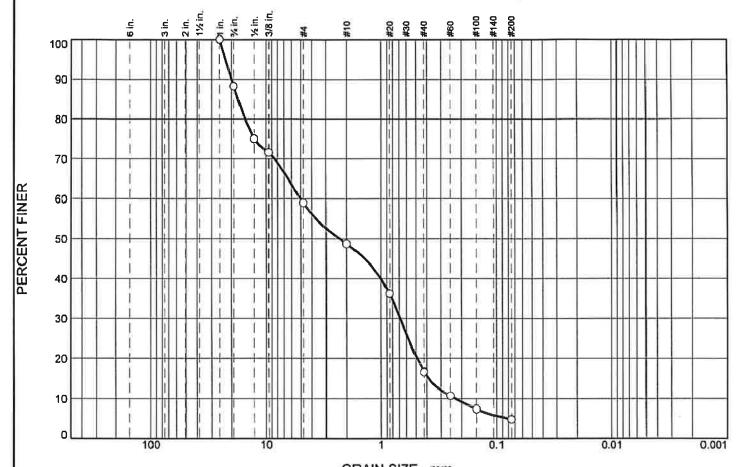
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Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GRAIN SIZE - mm. % Gravel % Sand % +3" % Fines Coarse Medium Fine Coarse Medium Fine 0.0 22.9 4.7 0.0 28.4 22.8 15.2 6.0

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4 1/2 3/8 #4 #10 #20 #40 #60	100.0 88.2 75.0 71.6 59.0 48.7 36.2 16.6 10.7	PERGENI	(X=NO)
#100 #200	7.4 4.7		

Material Description Brown, GRAVEL and medium to coarse Sand, trace Silt.					
PL=	Atterberg Limits	PI=			
D ₈₅ = 17.5571 D ₃₀ = 0.6841 C _u = 22.16	Coefficients D ₆₀ = 5.0270 D ₁₅ = 0.3886 C _c = 0.41	D ₅₀ = 2.3135 D ₁₀ = 0.2269			
USCS= SP	<u>Classification</u> AASHT	O= A-1-a			
	Remarks				

(no specification provided)

Sample Number: S-1 Source of Sample: TP-4

Depth: 0.5-6.5 ft.

Date:

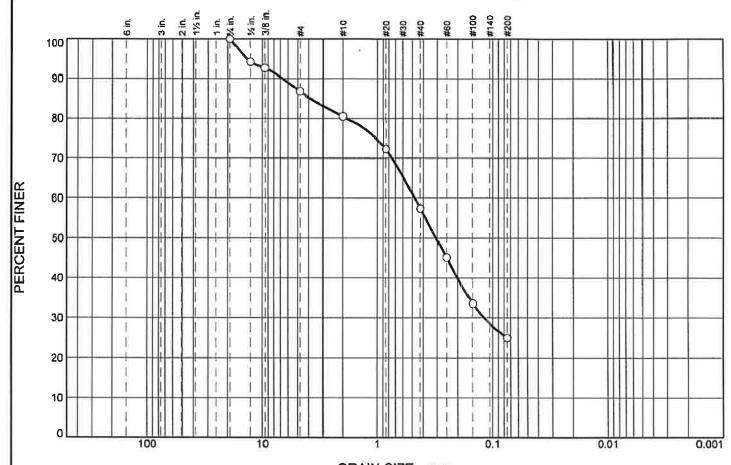
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GRAIN SIZE - mm % Gravel % Sand % +3" % Fines Medium Medium Coarse Fine Coarse Fine 0.0 12.2 24.9 0.07.4 15.0 20.4 20.1

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/4	100.0		
1/2	94.1	ya	
3/8	92.6		
#4	86.7		
#10	80.4		
#20	72.2		
#40	57.3		
#60	45.0		
#100	33.6		
#200	24.9		

	Material Description Brown, fine to coarse SAND, some Silt, little Gravel.				
PL=	Atterberg Limits	PI=			
D ₈₅ = 3.9077 D ₃₀ = 0.1192 C _u =	Coefficients D ₆₀ = 0.4758 D ₁₅ = C _c =	D ₅₀ = 0.3098 D ₁₀ =			
USCS= SM	USCS= SM Classification AASHTO= A-2-4(0)				
	<u>Remarks</u>				

(no specification provided)

Sample Number: S-1 Source of Sample: TP-5A

Depth: 0-2.5 ft.

Date:

GZA GeoEnvironmental, Inc.

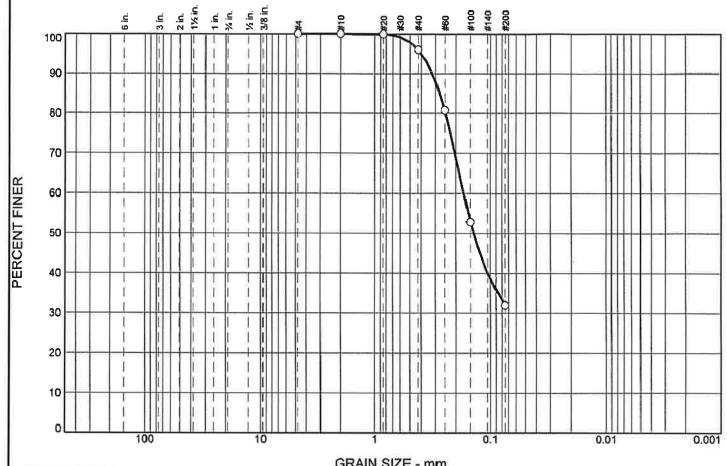
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





% +3"		% Gravel			% Sand		9/ Fines
/6 TO	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	0.0	0.0	0.8	18.5	48.7	32.0

	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	#4	100.0		
	#10	100.0		
	#20	99.9		
	#40	96.0		
	#60	80.7		
	#100	52.8		
	#200	32.0		
- 3	*			

Material Description Brown, fine to medium SAND, some Silt.					
PL=	Atterberg Limits	Pl=			
D ₈₅ = 0.2762 D ₃₀ = C _u =	Coefficients D ₆₀ = 0.1719 D ₁₅ = C _c =	D ₅₀ = 0.1410 D ₁₀ =			
USCS= SM		O= A-2-4(0)			
	<u>Remarks</u>				

* (no specification provided)

Sample Number: S-2 Source of Sample: TP-6

Depth: 2-3 ft.

Date:

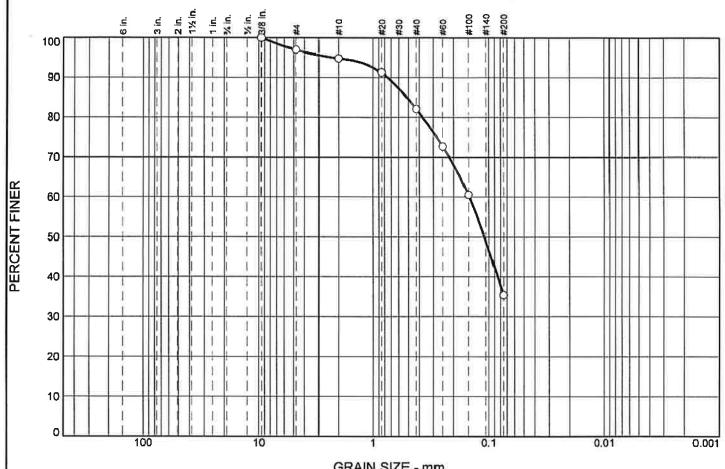
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



				SICKIN OF	<u> </u>		
0/	% (% Gravel		% Sand		0/ F:
% +3 "	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	0.0	5.3	7.5	14.5	37.3	35.4

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
3/8 #4 #10 #20 #40 #60 #100 #200	96.9 94.7 91.2 82.0 72.7 60.5 35.4	PERCENT	(X=NO)

Material Description Brown, fine to medium SAND and Silt, trace Gravel.					
PL=	Atterberg Limits	PI=			
D ₈₅ = 0.5149 D ₃₀ = C _u =	Coefficients D ₆₀ = 0.1474 D ₁₅ = C _c =	D ₅₀ = 0.1095 D ₁₀ =			
USCS= SM	<u>Classification</u> AASHT	O= A-2-4(0)			
	Remarks				

(no specification provided)

Sample Number: S-2 Source of Sample: TP-9

Depth: 0.7-7 ft.

Date:

GZA GeoEnvironmental, Inc.

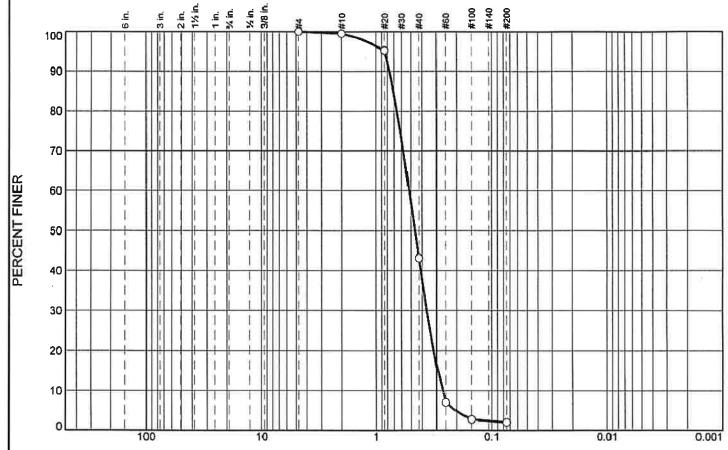
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





GRAIN SIZE - mm. % Gravel % Sand % +3" % Fines Coarse Medium Fine Coarse Medium Fine 0.0 0.0 0.0 0.5 26.7 65.7 5.1 2.0

Γ	SIEVE	PERCENT	SPEC.*	PASS?
	SIZE	FINER	PERCENT	(X=NO)
	#4 #10 #20 #40 #60 #100 #200	99.5 95.2 43.1 7.1 2.8 2.0	PERCENT	(X=NO)
L				

Material Description Brown, medium to coarse SAND, trace Silt.				
PL=	Atterberg Limits LL=	PI=		
D ₈₅ = 0.7078 D ₃₀ = 0.3638 C _u = 1.92	Coefficients D ₆₀ = 0.5155 D ₁₅ = 0.2944 C _c = 0.96	D ₅₀ = 0.4600 D ₁₀ = 0.2681		
USCS= SP	Classification AASHT	O= A-1-b		
	<u>Remarks</u>			

(no specification provided)

Sample Number: S-3 Source of Sample: TP-13

Depth: 1.5-6.5 ft.

Date:

GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01

APPENDIX C BORING LOGS

Log of Boring **B-B-BOR-01** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 150.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/28/20 6/29/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 23 ft 23 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data /22/2020 5:19:31 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 150. 10 20 30 40 Started Drilling at 6/28/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 2 150.0 S-1 at 0ft (moist)[TOPSOIL] 4 22 Light brown fine SAND, trace silt 3 (dry) 3 USE.GPJ SS S-2 at 2ft Light brown fine SAND, trace silt 2 3 4 3 Auger to 4ft. Easy drilling 3 <u>ss</u> S-3 at 4ft Light brown fine SAND, trace silt 8 ENTERPRISE (dry) 6 S-3 15 5 4 6 S-4 at 6ft \GINTLOGS\151010101 Light brown fine-medium SAND, trace silt, trace fine gravel 10 SS (dry) 10 S-4 7 Auger to 8ft. Moderate rig 17 chatter 23 8 S-5 at 8ft Light gray fine-coarse SAND, trace silt, trace fine gravel 26 (dry) [TILL] 42 SS S-5 13 9 28 26 Light gray fine-coarse SAND, trace silt, trace fine gravel S-6 at 10ft S-6 SS 2 100/5 100/5 (dry) [TILL] 11 12 Auger to 15ft. Moderate rig 13 14 S-7 at 15ft SS Light gray fine-coarse SAND, trace silt, trace fine gravel 14 (dry) [TILL] 25 S-7 10 16 25 18 17 Auger to 20ft. Moderate rig chatter 18 19



Log of Boring B-B-BOR-01 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 150.5 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 130. Light gray fine-coarse SAND, trace silt, trace fine gravel (dry) [TILL] 20 S-8 at 20ft SS 23 S-8 24 21 Auger to 25. Heavy rig 21 chatter and no advancement 17 at 23ft 22 Inferred Top of Bedrock . Report: *(X/5//s*+127.5 23 Bottom of boring at 6/28/2020 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATAL_DISCIPLINE/GEOTECHNICAL/GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 5:19:32 PM .. Boring backfilled with auger 24 Bottom of Boring cuttings 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

Log of Boring B-B-BOR-02 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/29/20 6/29/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822DT 25 ft 25 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) Completion Water Level (ft.) 4in 20 N/A Casing HammeN/A Drilling Foreman Weight (lbs) Drop (in) 140 Scott Mcgregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Justin Hall Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 147. 10 20 30 40 0 Started Drilling at 6/29/2020 4" Dark brown fine-coarse SAND, some silt, trace roots 147. 2 S-1 at 0ft (moist) [TOPSOIL] SS 2 Light brown fine SAND, some silt 4 3 (dry) 2 S-2 at 2ft Light brown fine-medium SAND, some silt, trace coarse 2 sand, trace fine gravel SS 8 (dry) 3 3 5 Roller bit and drive casing to Light brown fine-medium SAND, trace silt 15 ENTERPRISE 4ft, Easy drilling (moist) 6 S-3 at 4ft. S-3 SS 13 5 5 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 6 (moist) SS S-4 12 11 8 Roller bit and drive casing to Light brown fine-medium SAND, some silt 8 8ft, Easy drilling (moist) 10 SS S-5 at 8ft 15 9 17 18 137. S-6 at 10ft. Light brown fine-medium SAND, trace silt 12 (moist) SS 18 16 20 19 12 Light brown silty fine SAND OMIDATA/BOS/DATA1/151010101/PROJECT DATA/ (moist) 13 Roller bit to 14ft, Easy drilling Light brown clayey SILT, trace fine sand S-7 at 14ft (moist) 8 20 15 9 Light brown fine-coarse SAND, trace silt 9 (moist) 129. 18 Roller bit to 19ft. Easy drilling Light brown fine-coarse SAND, trace silt, trace f-m gravel S-8 12 14-19ft (wet) [TILL]



Log of Boring B-B-BOR-02 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 127. 20 2 50/5 50/5 21 22 Roller bit to 22ft, Medium to Light grayish brown fine-coarse SAND, some silt, some fine SS 19 heavy rig chatter gravel, trace weathered rock fragments 47 Medium to hard drilling (wet) [TILL] 13 109 23 19-22ft. 62 S-9 at 22ft 35 24 No Recovery NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ....7/22/2020 5:19:35 Inferred Top of Bedrock -122.5 25 100/0 Roller bit to 25ft, Medium to 0 heavy rig chatter Medium to hard drilling 22-25ft 26 Bottom of Boring S-9 at 22ft Roller bit and split spoon refusal at 25ft 27 Bottom of boring at 6/29/2020 28 Boring backfilled with auger cuttings. 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring B-B-BOR-03(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 151 (NGVD29) Drilling Company Date Started Date Finished 6/28/20 6/28/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 31.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 25 N/A N/A 24.9 Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) Automatic 140 Jack Berritt Sample Data /22/2020 5:19:38 PM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 151. 10 20 30 40 0 Started Drilling at 6/28/2020 3" Dark brown fine-medium SAND, trace silt, trace roots -150.8 3 S-1 at 0ft (moist) [TOPSOIL] SS 6 10 Brown fine SAND, trace silt (dry) 10 USE.GPJ SS S-2 at 2ft Brown fine SAND, trace silt 3 (dry) 3 4 3 Auger to 4ft, Easy drilling 3 S-3 at 4ft Brown fine SAND, trace silt 4 ENTERPRISE (dry) 3 S-3 16 5 4 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, trace silt 4 SS (dry) S-4 24 Auger to 8ft, Easy drilling 5 8 S-5 at 8ft Brown fine SAND, some silt 5 (dry) 5 SS S-5 24 9 6 16 10 S-6 at 10ft Brown fine SAND, some silt 17 (dry) SS 21 S-6 18 20 40 12 Auger to 15ft, Easy drilling -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine SAND, trace silt (dry) 13 S-7 22 16 15 11 17 Auger to 20ft, Easy drilling 18 19



BORINGS USE.GPJ

ENTERPRISE

Log of Boring B-B-BOR-03(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 151 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -131.0 20 S-8 at 20ft Brown fine SAND, trace silt SS (dry) 17 21 36 19 30 22 Auger to 25ft, Easy drilling 23 7/22/2020 5:19:39 PM 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS 8 26 2 14 Auger to 30ft, Light rig chatter 28 29 30 S-10 at 30ft Brown fine-coarse SAND, trace silt, trace fine gravel S-10 (wet) 23 19 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 50/4 119.7 50/4 Bottom of boring at 6/28/2020 32 Bottom of Boring Observation well installed. Refer to well construction 33 34 35 36 37 38 39 43



B-B-BOR-04 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 157.5 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 40.5 ft 40.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 30 N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 157. 10 20 30 40 ¹/₂ 157.3 Started Drilling at 6/28/2020 3" Light brown fine-medium SAND, some silt, some roots S-1 at 0ft (dry)[TOPSOIL] 5 Light brown SILT, some fine sand, trace roots 17 Light brown fine-medium SAND, trace silt 5 S-2 at 2ft (dry) 5 Light brown fine-medium SAND, trace silt SS (dry) 15 3 5 Auger to 4ft 6 S-3 at 4ft Light brown fine-medium SAND, trace silt 5 ENTERPRISE (dry) 6 S-3 SS 48 5 5 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, trace silt, trace roots 4 (moist) SS S-4 16 10 Auger to 8ft 8 S-5 at 8ft Light brown fine SAND, trace silt (moist) 8 SS S-5 24 9 9 9 S-6 at 10ft Light brown fine-medium SAND, some silt 10 (moist) SS 10 S-6 22 11 11 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, easy drilling S-7 at 15ft SS Light brown fine-medium SAND, trace silt 20 (moist) 19 S-7 22 22 24 17 18 19 Auger to 20ft, easy drilling



Log of Boring B-B-BOR-04 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 157.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 137. S-8 at 20ft Light brown fine-coarse SAND, some f-c gravel, trace silt SS (moist) 21 24 21 21 16 22 23 24 Auger to 25ft, easy drilling 25 S-9 at 25ft, spoon bouncing Light brown fine-coarse SAND, some f-c gravel, trace silt SS 2 50/0 (moist) 26 28 29 Auger to 30ft, moderate drilling 30 S-10 at 30ft Light brown silty fine-medium SAND, trace f-c gravel 68 (wet) [TILL] 25 13 31 25 37 32 33 34 Auger to 35ft, hard drilling S-11 at 35ft SS Light brown silty fine-medium SAND, trace clay, trace fine 67 gravel S-11 16 70 (wet) [TILL] 36 100 37 38 Auger to 40ft, hard drilling 39 \\LANGAN.COM\DATA\BOS\DATA1\151010101\PRC Light brown silty fine-medium SAND, trace clay, trace fine gravel (wet) [TILL] $\,$ Inferred Top of Bedrock S-12 at 40ft ss 9 100 Bottom of boring at 6/28/2020 Boring backfilled with auger cuttings. Bottom of Boring 43



Log of Boring **B-B-BOR-05** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 155 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished Atlantic Testing Laboraties 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 32 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Drag Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 30 N/E N/A Casing HammerAutomatic Drop (in) Weight (lbs) Drilling Foreman 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 155. 10 20 30 40 Started Drilling at 6/11/2020 Light brown fine SAND, trace silt S-1 at 0ft (dry) SS <u>۲</u> 12 2 2 USE.GPJ S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel 3 4 S-2 12 3 Drill to 4.0ft 15 Drive casing to 4.0ft 40 S-3 at 4ft Light grayish brown fine-medium SAND, some fine gravel, 33 ENTERPRISE trace silt 28 S-3 SS (dry) 10 5 26 25 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light grayish brown fine-medium SAND, some fine gravel, 22 trace silt 22 SS S-4 (dry) 8 Drill to 8.0ft 26 Drive casing to 8.0ft 27 8 S-5 at 8ft Light grayish brown fine-medium SAND, trace silt, trace 16 fine gravel 18 SS S-5 (dry) 9 24 21 S-6 at 10ft Light grayish brown fine-medium SAND, some fine gravel, 27 trace silt SS 34 S-6 (dry) 20 56 53 12 Drill to 15.0ft Drive casing to 15.0ft ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA 13 14 S-7 at 15ft SS Light grayish brown fine-medium SAND, some fine gravel, 41 15 (moist) S-7 12 34 19 28 17 Drill to 20.0ft Drive casing to 20.0ft, Rig Chattering 18 19



Log of Boring B-B-BOR-05 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 155 (NGVD29) Sample Data Remarks Elev (ft) N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 135.0 20 S-8 at 20ft Light grayish brown fine-medium SAND, some fine gravel, 40 SS 29 S-8 (moist) [TILL] 16 21 65 70 22 Drill to 25.0ft Drive casing to 25.0ft, Rod Chattering 23 24 25 S-9 at 25ft Light grayish brown fine-medium SAND, some fine gravel, 28 trace silt SS 38 S-9 (moist) [TILL] 26 39 33 Drill to 30.0ft. Drive casing to 30.0ft, Rod Chattering 28 29 30 S-10 at 30ft SS Light grayish brown fine-medium SAND, some fine gravel, 40 trace silt 43 (moist) [TILL] 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 51 45 -123.0 32 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with soil 33 cuttings. 34 35 36 37 38 39 43

Log of Boring B-B-BOR-06 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 159 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Truck Mounted Diedrich D-50 30 ft 30 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 10 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Justin Hall Sample Data /22/2020 5:19:51 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 159. 10 20 30 40 0 Started Drilling at 6/11/2020 3" Dark brown fine-coarse SAND, some silt, some organics 158. S-1 at 0ft (moist) [TOPSOIL] SS 5 Light brown fine-coarse SAND, some fine gravel, trace silt 17 8 9 USE.GPJ S-2 at 2ft Light grayish brown fine-coarse SAND, some fine gravel, trace silt SS 9 BORINGS (dry) 22 3 10 22 Auger to 4ft Light grayish brown fine-coarse SAND, some silt, trace f-c 14 ENTERPRISE S-3 at 4ft gravel 16 S-3 SS (dry) 17 5 Light Rig Chatter 4'-6' 25 22 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light grayish brown fine-coarse SAND, some f-c gravel, 22 trace silt SS 19 S-4 (dry) 41 52 8 Auger to 8ft Light grayish brown fine-coarse SAND, trace f-m gravel, 26 S-5 at 8ft trace silt 29 S-5 SS (moist) 19 9 Light Rig Chatter 9'-10' 21 21 S-6 at 10ft Light grayish brown fine-coarse SAND, some silt, trace fine 67 gravel SS 33 S-6 (wet) 20 46 59 12 BOS\DATA1\151010101\PROJECT DATA\ 13 14 Auger to 15ft SS Light grayish brown fine-coarse SAND, trace silt, trace fine 10 S-7 at 15ft 17 (wet) [TILL] S-7 20 52 65 17 18 19



Log of Boring B-B-BOR-06 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 159 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 139.0 20 Auger to 20ft Light grayish brown fine-coarse SAND, trace silt, trace fine SS S-8 at 20ft 8-8 84 (wet) [TILL] 21 100/5 100/5 22 23 24 25 Auger to 25ft Light grayish brown fine-coarse SAND, trace silt, trace fine 30 S-9 at 25ft gravel (moist) [TILL] 8 78 က် 26 100/5 100/5 27 28 29 No Recovery VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE Inferred Top of Bedrock **4**129.0 S-10 SS 0 100/0 Auger to 30ft S-10 at 30ft Bottom of boring at 31 6/11/2020 Bottom of Boring Boring backfilled with auger cuttings. 32 33 34 35 36 37 38 39 43



Log of Boring **B-B-BOR-07** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 159 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/10/20 6/10/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 29.5 ft 29.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 15 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 159. 10 20 30 40 Started Drilling at 6/10/2020 7" Dark brown fine-coarse SAND, some silt, trace fine S-1 at 0ft 158.4 gravel, some roots (moist) [TOPSOIL] 17 Brown fine-coarse SAND, trace silt, trace f-c gravel USE.GPJ S-2 at 2ft Brown fine-coarse SAND, trace silt, trace f-c gravel SS 8 BORINGS 3 2 13 Auger to 4ft 16 S-3 at 4ft Brown fine-coarse SAND, some fine gravel, trace silt 10 ENTERPRISE (dry) 15 S-3 SS 5 15 16 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown to brown fine-coarse SAND, some f-c gravel, trace 17 16 SS S-4 (dry) 13 24 Auger to 8ft 51 8 S-5 at 8ft Brown to brown fine-medium SAND, some f-c gravel, trace 34 silt, trace weathered cobble fragments 29 9 27 Brown fine-coarse SAND, some silt, trace f-c gravel 25 S-6 at 10ft Brown fine-coarse SAND, some f-c gravel, trace silt 21 (moist) SS 33 S-6 19 28 19 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy-moderate drilling, some light rig chatter 14 S-7 at 15ft SS Brown fine-coarse SAND, some silt, trace f-c gravel 26 (wet) 19 S-7 10 16 37 15 17 18 Auger to 20ft, moderate drilling, some light rig chatter 19



Log of Boring **B-B-BOR-07** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 159 (NGVD29) Sample Data Remarks Elev N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 139.0 20 S-8 at 20ft Brown silty fine-coarse SAND, trace fine gravel, trace fine S-8 12 34 (wet) [TILL] 21 50/3 50/3 22 23 Auger to 25ft, hard drilling 21.3 to 22ft - inferred boulder 24 25 S-9 at 25ft Gray silty fine-medium SAND, some clay, trace fine gravel 19 (wet) [TILL] SS 24 26 32 43 28 Auger to 29ft, hard drilling Gray silty fine-medium SAND, frace fine sand, trace fine gravel, cemented (dry) [TILL] Inferred Top of Bedrock S-10 at 29ft, auger and split SS 5 100 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE 129.5 spoon refusal at 29ft Bottom of boring at 30 6/10/2020 Boring backfilled with auger Bottom of Boring cuttings. 31 32 33 34 35 36 37 38 39 43

Log of Boring **B-B-BOR-08** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 159 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth 21 ft Truck Rig 21 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 10 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 159. 10 20 30 40 Started Drilling at 6/26/2020 7" Brown fine-medium SAND, some silt, some roots 158.4 (moist) [TOPSOIL] S-1 at 0ft 17 Brown fine-coarse SAND, trace silt, trace f-c gravel S-2 at 2ft Brown fine-coarse SAND, trace silt, trace f-c gravel 8 (moist) SS 4 3 Auger to 4ft 10 S-3 at 4ft Brown fine-coarse SAND, trace silt 8 ENTERPRISE (moist) 7 S-3 SS 5 11 12 6 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace f-c gravel 12 152. 31 SS 15 Brown silty fine-medium SAND, trace f-c gravel, trace 47 weathered gravel fragments Auger to 8ft (moist) [TILL] S-5 at 8ft Brown silty fine-medium SAND, trace f-c gravel, trace 14 weathered gravel fragments 19 S-5 SS 15 (moist) [TILL] 9 22 24 10 Brown silty fine-medium SAND, trace f-c gravel, trace S-6 at 10ft 33 weathered gravel fragments SS 29 S-6 (wet) [TILL] 15 22 25 12 13 Auger to 15ft, moderate drilling 14 S-7 at 15ft SS Brown silty fine-medium SAND, trace f-c gravel, trace 17 weathered gravel fragments 15 (wet) [TILL] 19 S-7 17 18 17 18 Auger to 20ft, moderate drilling 19



Log of Boring **B-B-BOR-08** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 159 (NGVD29) Sample Data Remarks Depth Scale Elev N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 139.0 20 S-8 at 20ft Brown silty fine-medium SAND, trace f-c gravel, trace weathered gravel fragments ω +138.0 +137.8 (wet [TILL] NLANGAN.COMDATA/BOSIDATA1/151010101/PROJECT DATAL DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 5:19:59 PM ... Report. Log - LANGAN 21 50/1 50/1 Gray to black fine-medium SAND, trace silt, trace fine Auger refusal at 21.5ft gravel, trace rock fragments (wet) [BEDROCK] Bottom of boring at 22 6/26/2020 Bottom of Boring Boring backfilled with auger 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

Log of Boring **B-B-BOR-09** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 157.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/29/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 18 ft 18 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 8.5 N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 157 10 20 30 40 Started Drilling at 6/29/2020 24" Dark brown silty fine-medium SAND, trace silt, trace S-1 at 0ft SS 10 (dry) [TOPSOIL] <u>۲</u> 8 ρ S-2 at 2ft Brown fine SAND, some coarse gravel, trace silt SS 3 8 S-2 3 8 12 Auger to 4ft Brown fine-coarse SAND, some fine gravel, trace silt 17 ENTERPRISE S-3 at 4ft (dry) 14 S-3 SS 5 25 30 151. 6 S-4 at 6ft Grayish brown fine-coarse SAND, some silt, some f-c 38 gravel, trace weathered rock fragments SS 26 (moist) [TILL] S-4 13 27 32 8 Auger to 8ft Grayish brown fine-coarse SAND, some silt, some f-c SS 17 ∇ S-5 at 8ft gravel 17 S-5 (wet)[TILL] 10 9 24 24 S-6 at 10ft Grayish brown fine-medium SAND, some silt, some f-c 33 gravel 27 SS S-6 (wet)[TILL] 16 24 22 12 13 14 Auger to 15ft. Hard drilling SS Grayish brown fine-medium SAND, some silt, trace fine 15 and heavy chatter gravel 42 S-7 at 15ft (wet)[TILL] S-7 16 17 62 17 Grayish brown fine-medium SAND, some silt, trace fine gravel(wet)[TILL] S-8 at 17.5ft S-8 ss 80 Inferred Top of Bedrock 18 50/3 139. Auger and spoon refusal encountered at 18ft. 19 Bottom of boring at 7/1/2020 Bottom of Boring Boring backfilled with soil cuttinas

Log of Boring B-B-BOR-10 Sheet of 1 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 156.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/29/20 6/30/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth 20 ft Truck Rig 20 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data 5:20:04 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 156. 10 20 30 40 Started Drilling at 6/29/2020 3" Dark brown fine-medium SAND, trace silt, trace roots SS 156. S-1 at 0ft (moist) [TOPSOIL] 5 15 Light brown fine-coarse SAND, trace silt, trace fine gravel (dry) 2 S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 5 (dry) SS 5 S-2 16 3 Auger to 4ft. Light rig chatter 7 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 5 (dry) ENTERPRISE 5 SS S-3 8 5 8 8 150 6 S-4 at 6ft Gravish brown fine-coarse SAND, some silt, some fine 14 gravel SS 13 13 (moist)[TILL] 7 Auger to 8ft. Moderate rig 19 chatter 14 8 S-5 at 8ft Brown fine-coarse SAND, some silt, some fine gravel SS 9 (moist)[TILL] 9 S-5 4 9 13 14 10 Brown fine-coarse SAND, some silt, some fine gravel, trace S-6 at 10ft 17 weathered rock fragments 21 SS 16 (moist) [TILL] 11 16 16 12 Auger to 15.0ft. Moderate rig chatter 13 15 S-7 at 15ft Grayish brown fine-coarse SAND, some silt, some fine 18 gravel, trace weathered rock fragments SS 34 S-7 8 (moist) [TILL] 16 36 39 17 Auger to 20ft. Moderate rig chatter 18 19 -136.5 20 S-8 at 20ft Dark gray fine-medium SAND, some fine gravel 50/1 Bottom of boring at (moist) [WEATHERED ROCK] 6/30/2020 Inferred Top of Bedrock 21 Boring backfilled with auger Bottom of Boring cuttings.



Log of Boring B-B-BOR-11 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 144.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/28/20 6/29/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 29 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 25 20.8 Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) 140 Safety Taylor Sisti Sample Data /22/2020 5:20:06 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 144. 10 20 30 40 Started Drilling at 6/28/2020 6" Orangish brown fine-medium SAND, some silt, some SS S-1 at 0ft 4 dry)[TOPSOIL] 13 Orangish brown fine-medium SAND, trace silt, trace roots USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 3 19 3 Light brown fine-medium SAND, trace silt 5 Auger to 4ft S-3 at 4ft Light brown fine SAND, trace silt 6 ENTERPRISE (dry) 7 S-3 SS 8 5 8 6 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, some silt 10 (moist) SS S-4 7 9 Auger to 8ft 8 S-5 at 8ft Light brown silty fine SAND 8 136.0 SS Light brown SILT, trace fine sand, mottled 22 9 10 13 S-6 at 10ft Light brown SILT, trace clay, trace fine sand and f-m 15 SAND, trace silt seams 3-6 inches thick SS 15 S-6 (moist) 15 16 16 12 13 14 Auger to 15ft, easy drilling S-7 at 15ft SS Light brown SILT, trace clay, trace fine sand and f-m 13 SAND, trace silt seams 2-4 inches thick 16 (moist) S-7 16 17 35 19 22 17 18 19 Auger to 20ft, easy drilling



B-B-BOR-11 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 144.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 124. 20 S-8 at 20ft Light brown fine-medium SAND, trace silt, trace f-c gravel, SS with silt lenses 1 inch thick 16 S-8 (moist) 21 18 15 22 23 24 Auger to 25ft, moderate drilling 25 S-9 at 25ft Light brown to brown silty fine-medium SAND, trace f-c 23 gravel, trace weathered rock pieces (wet) [TILL] SS 32 16 26 35 44 Auger to 27ft, auger refusal Light brown silty fine-medium SAND, trace f-c gravel, trace 46 S-10 at 27ft weathered rock pieces S-10 41 (wet) [TILL] 28 31 32 29 Bottom of boring at VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ Bottom of Boring 6/29/2020 Boring backfilled with auger 30 cuttings. 31 32 33 34 35 36 37 38 39 43

Log of Boring **B-B-BOR-12** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 149 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/29/20 6/29/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Rig B-53 43 ft 38 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 11 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 29 14 N/A Casing HammerSafety Drilling Foreman Weight (lbs) Drop (in) 30 140 Jeff Nitch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data /22/2020 5:20:10 PM MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in Coring ((Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 149. 10 20 30 40 Started Drilling at 6/29/2020 6" Dark brown fine SAND, trace silt, trace roots SS 2 148.5 S-1 at 0ft (dry) [TOPSOIL] 3 Light brown fine SAND, trace silt 17 3 (dry) 3 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, some silt 3 3 4 3 3 Drill to 4ft, Easy Drilling, 3 Great wash 4 Light brown fine-medium SAND, some silt SS 3 ENTERPRISE S-3 at 4ft (moist) S-3 10 5 4 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, some silt SS (moist) S-4 Drill to 8ft, Easy Drilling, 8 Gray wash Light brown fine SAND, some silt S-5 at 8ft (moist) 6 SS S-5 9 6 6 7 S-6 at 10ft Light brown fine-medium SAND, some silt 11 (moist) SS 14 S-6 16 37 23 25 12 Drill to 14ft, Easy Drilling, Gray wash ANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 ∇ S-7 at 14ft Light brown fine-medium SAND, some silt 11 (wet) 14 SS S-7 10 15 16 15 16 Drill to 19ft, Easy Drilling, Gray wash 17 18 S-8 at 19ft Light brown silty fine SAND 8 လူ 15 (wet)



Log of Boring **B-B-BOR-12** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 149 (NGVD29) Sample Data Coring (min) Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 129.0 20 SS S-8 15 15 21 Drill to 25ft, Easy Drilling, Gray wash 22 23 24 S-9 at 24ft -124.7 Light brown silty fine SAND 10 (wet) SS Light brown fine-coarse SAND, trace silt 25 ω 9 (wet) 8 Drill to 29ft, Easy Drilling, Gray wash BORINGS USE.GPJ 28 29 S-10 at 29ft Gray fine GRAVEL, trace silt, trace fine sand 20 ENTERPRISE (wet) S-10 18 က 30 13 18 118.0 31 Drill bit Refusal at 31ft. Dark gray BOULDER RQD=71% 4:45 C-1 at 31ft 5 32 1:20 33 Drill to 35ft, Moderate Augering, Gray wash 34 35 SS S-11 at 35ft Brown sandy fine GRAVEL, some silt 15 (wet) [TILL] 16 S-11 36 53 50 37 Drill to 40ft, Moderate Drilling, Gray wash 38 Drill bit Refusal at 38ft Light gray pegmatite fine-coarse grained; fresh to slightly weathered; fractures shallow dipping to near horizontal; strong; very poor quality 3:20 C-2 at 38ft 39 REC=20"/60" =33% [BEDROCK] 6:12 40 RQD=4"/60" 8:12 11:22 11:51 106.0 43 Bottom of boring at 6/29/2020 Bottom of Boring Boring backfilled with soil cuttings.

B-B-BOR-13 Log of Boring Sheet 2 of Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 153 (NGVD29) Drilling Company Date Started Date Finished 6/28/20 6/28/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 32 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) 20 N/A N/A N/A Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) Automatic 140 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 153.0 10 20 30 40 0 Started Drilling at 6/28/2020 3" Dark brown fine-medium SAND, trace silt, trace roots -152.8 3 S-1 at 0ft (moist) [TOPSOIL] 4 Brown fine SAND, trace silt 10 3 (dry) SS S-2 at 2ft Brown fine SAND, trace silt 3 (dry) 3 22 3 Auger to 4ft, Easy drilling 3 SS , S-3 at 4ft Brown fine SAND, trace silt 5 ENTERPRISE (dry) 6 S-3 15 5 4 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, some silt 5 SS (dry) S-4 Auger to 8ft, Easy drilling 8 SS SS S-5 at 8ft Brown fine SAND, trace silt (dry) S-5 4 9 5 10 S-6 at 10ft Brown fine SAND, trace silt 9 (dry) SS 11 S-6 19 14 15 12 Auger to 15ft, Easy drilling ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 138.0 S-7 at 15ft Brown fine SAND, some silt SS 12 (dry) 16 16 S-7 16 18 17 Auger to 20ft, Easy drilling 18 19



Log of Boring **B-B-BOR-13** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 153 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -133.0 20 S-8 at 20ft Brown silty fine SAND SS (wet) 5 16 21 8 22 Auger to 25ft, Easy drilling 23 7/22/2020 5:20:15 PM 24 -128.0 25 S-9 at 25ft Brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS 5 18 26 10 Auger to 30ft, Easy drilling 28 29 ENTERPRISE 30 S-10 at 30ft SS Brown fine-coarse SAND, trace silt, trace fine gravel 10 (wet) 26 16 31 70 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 44 16 +121.0 32 Bottom of boring at Bottom of Boring 6/29/2020 Boring backfilled with auger 33 cuttings. 34 35 36 37 38 39 43

B-B-BOR-14 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 144.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/11/20 6/12/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Drag Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 15 N/A 15 Casing HammerAutomatic Drop (in) Drilling Foreman Weight (lbs) 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 144. 10 20 30 40 Started Drilling at 6/11/2020 Light brown fine SAND, trace silt 2 (dry) S-1 at 0ft SS 3 S-1 15 3 USE.GPJ SS S-2 at 2ft Light brown fine SAND, trace silt 3 3 Drill to 4.0ft 5 Drive casing to 4.0ft 5 SS S-3 at 4ft Light brown fine SAND, trace silt 6 ENTERPRISE (dry) 6 S-3 12 5 8 8 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 10 (dry) SS 11 S-4 8 Drill to 8.0ft 12 Drive casing to 8.0ft 13 8 S-5 at 8ft Light brown fine-medium SAND, trace silt 11 (dry) 12 SS S-5 4 9 26 14 15 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 19 (dry) SS 21 S-6 32 25 12 Drill to 15.0ft Drive casing to 15.0ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 13 17 S-7 16 6 15 13 17 Bottom of boring at Bottom of Boring 6/12/2020 Boring backfilled with soil 18 cuttings. 19



Log of Boring B-B-BOR-15(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143.5 (NGVD29) Drilling Company Date Started Date Finished 6/10/20 6/10/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 30 ft 30 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 19 N/A N/A 19.2 19.3 Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 143. 10 20 30 40 0 Started Drilling at 6/10/2020 3" Brown fine SAND, trace silt, trace roots 143.2 S-1 at 0ft (dry) [TOPSOIL] SS 5 <u>۲</u> 4 6 5 S-2 at 2ft Brown fine-medium SAND, trace silt (dry) <u>ss</u> BORINGS 3 5 Auger to 4ft, easy augering Brown fine-medium SAND, trace silt SS 6 ENTERPRISE S-3 at 4ft (dry) 9 S-3 4 5 9 9 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 11 (dry) SS 14 S-4 13 16 8 Auger to 8ft, easy augering Brown fine-medium SAND, trace silt 9 S-5 at 8ft (dry) 10 SS S-5 18 9 12 13 S-6 at 10ft Brown fine-medium SAND, trace silt 15 (dry) SS 16 S-6 15 16 16 12 Auger to 15ft, easy augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-medium SAND, trace f-m gravel, trace silt 12 (dry) 16 S-7 16 18 20 17 Auger to 20ft, easy augering 18 19



BORINGS USE.GPJ

Log of Boring B-B-BOR-15(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 143.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 123. 20 S-8 at 20ft Brown fine-coarse SAND, trace silt, trace fine gravel SS S-8 (wet) ∞ 15 21 Auger to 25ft, moderate augering, light chatter 22 23 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS 11 22 26 13 11 Auger to 30ft, easy augering S-10 at 30ft 28 29 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ No Recovery Inferred Top of Bedrock -113.5 _S-10 SS 0 Split spoon and auger 50/0 refusal at 30ft Bottom of boring at 31 Bottom of Boring 6/10/2020 Observation well installed. Refer to well construction 32 log. 33 34 35 36 37 38 39 43

Log of Boring **B-B-BOR-16** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 149 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 30.5 ft 30.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 11 N/A Casing HammeN/A Weight (lbs) Drop (in) Drilling Foreman 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 149. 10 20 30 40 Started Drilling at 6/28/2020 "Removed 6"" topsoil and 12" Dark brown fine-medium SAND, trace silt, some roots (dry) [TOPSOIL] grass before start of boring" 148.0 Light brown fine-medium SAND, some fine gravel, trace silt 12 Š-1 at .5ft SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 8 S-2 4 3 25 Drive casing to 4.0ft Grayish brown fine-coarse SAND, some silt, some fine 11 Drill to 4.0ft, easy drilling 21 S-3 SS S-3 at 4ft (dry)[TILL] 9 5 24 34 6 S-4 at 6ft Grayish brown fine-medium SAND, some silt, some fine 27 gravel 30 SS (wet)[TILL] S-4 12 42 30 8 Drill to 8.0ft, moderate Grayish brown fine-medium SAND, some silt, some fine 19 drilling gravel 22 SS S-5 at 8ft S-5 (wet)[TILL] 16 9 24 29 10 S-6 at 10ft Grayish brown fine-medium SAND, some silt, some fine 16 gravel SS 18 (wet)[TILL] S-6 8 11 25 24 12 13 Drill to 14.0ft, moderate Grayish brown fine-medium SAND, some silt, some fine 23 gravel (wet)[TILL] drilling 28 SS S-7 at 14ft S-7 15 31 22 16 17 18 Grayish brown fine-medium SAND, some silt, some fine Drill to 19.0ft, moderate SS 20 gravel လူ 24 drilling (wet)[TILL] 26



Log of Boring B-B-BOR-16 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 149 (NGVD29) Sample Data Remarks Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 129.0 20 SS S-8 24 43 21 22 23 24 Drill to 24.0ft, moderate to hard drilling, some rig chatter Grayish brown fine-medium SAND, some silt, some fine 15 gravel (wet)[TILL] SS 24 S-9 at 24ft 25 24 26 33 26 28 29 Drill to 29.0ft, moderate Grayish brown fine-medium SAND, some silt, some fine SS 31 drilling S-10 34 S-10 at 29ft (wet)[TILL] 30 67 Inferred Top of Bedrock Split spoon and auger 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 refusal Bottom of boring at 6/28/2020 32 Bottom of Boring Boring backfilled with soil cuttings. 33 34 35 36 37 38 39 43

Log of Boring **B-B-BOR-17** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 148 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 26.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A 10 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 148. 10 20 30 40 Started Drilling at 6/26/2020 7" Brown fine-medium SAND, some silt, some roots (dry) [TOPSOIL] 147.4 S-1 at 0ft 11 Brown fine-coarse SAND, some silt, trace f-c gravel, trace 4 roots (dry) 9 S-2 at 2ft Brown fine-coarse SAND, some silt, trace f-c gravel, trace 10 3 ω 12 Brown fine-medium SAND, some silt, some f-c gravel Auger to 4ft (dry) 13 S-3 at 4ft Brown fine-coarse SAND, some silt, some f-c gravel 14 (dry) 22 S-3 SS 15 5 21 20 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, some silt, trace f-c gravel 25 (dry) 27 SS S-4 13 20 Auger to 8ft 140.0 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace f-c gravel 9 (moist) 10 SS S-5 17 9 8 14 138. S-6 at 10ft Brown silty fine-medium SAND, trace f-c gravel, trace 20 weathered gravel fragments SS 21 S-6 (wet) [TILL] 9 22 16 12 13 Auger to 15ft, moderate drilling 14 S-7 at 15ft SS Brown silty fine-medium SAND, some f-c gravel, trace 22 weathered gravel fragments 30 (wet) [TILL] 16 S-7 32 24 17 18 Auger to 20ft, moderate drilling 19



Log of Boring **B-B-BOR-17** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 148 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -128.0 20 Gray SILT, some clay, trace f-c sand, trace fine gravel (moist) [TILL] S-8 at 20ft SS 39 S-8 22 21 33 69 22 23 Auger to 24.5ft, hard drilling Auger refusal at 24.5ft 24 Gray SILT, some fine sand, trace clay, trace fine gravel (moist) [TILL] S-9 at 24.5ft SS 51 25 61 119 58 26 62 2-121.5 Bottom of boring at NLANGAN, COMIDATA\BOS\DATA1/1510101011PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 27 6/26/2020 Bottom of Boring Boring backfilled with auger cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring B-B-BOR-18(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 146.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished 6/27/20 6/28/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 20 ft 20 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 10 10.5 Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 146 10 20 30 40 Started Drilling at 6/27/2020 6" Light brown fine-medium SAND, some silt, some roots 146. S-1 at 0ft (moist) [TOPSOIL] 5 12 Light brown fine-medium SAND, some silt, trace roots 6 Light brown fine-coarse SAND, trace silt, trace fine gravel, 6 GPJ S-2 at 2ft trace roots 8 SS Light brown fine-coarse SAND, trace silt, trace fine gravel 3 (dry) Auger to 4ft 8 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 5 ENTERPRISE (moist) 7 S-3 SS 16 5 9 6 ECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace fine gravel 13 (moist) SS 12 S-4 15 11 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace f-c gravel (moist) 13 9 36 Light brown silty fine-medium SAND, trace f-c gravel, trace weathered gravel fragments 25 10 (moist) [TILL] S-6 at 10ft 25 Light brown silty fine-medium SAND, trace f-c gravel, trace SS 27 weathered gravel fragments S-6 8 (wet) [TILL] 28 26 12 13 Auger to 15ft, moderate drilling 14 S-7 at 15ft SS Light brown silty fine-medium SAND, trace clay, trace fine 17 23 (wet) [TILL] 19 S-7 18 17 Rig break, leave hole open overnight and continue drilling in the morning 18 19 Auger to 20ft, Hard drilling at 18.5ft



Log of Boring B-B-BOR-18(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 146.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) -126.5 10 20 30 40 S-8 at 20ft, spoon bouncing Gray to black fine-medium SAND, trace silt, trace fine 126. S-8 SS 50/1 Bottom of boring at gravel, trace plate rock fragments 6/28/2020 (wet) [WEATHERED ROCK] NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:20:34 PM ... Report: Log - LANGAN 21 Inferred Top of Bedrock Observation well installed. Refer to well construction log. 22 Bottom of Boring 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

B-B-BOR-19 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 150.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/30/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 11 ft 11 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 6 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 8 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Reid Balkind Sample Data 5:20:37 PM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 150. 10 20 30 40 0 Started Drilling at 6/30/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 150. 5 S-1 at 0ft (dry) [TOPSOIL] SS 8 15 Light brown fine SAND, trace silt, trace fine gravel 8 (dry) 10 USE.GPJ SS S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel 9 BORINGS 4 3 10 10 Auger to 4ft Brown fine-coarse SAND, some fine gravel, trace silt 12 ENTERPRISE S-3 at 4ft (dry) 20 S-3 SS 16 5 18 17 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 25 (moist) 29 SS S-4 28 32 8 Auger to 8ft Brown fine-coarse SAND, some silt, trace fine gravel 19 S-5 at 8ft (wet) 13 SS S-5 9 က 16 31 S-6 at 10ft Brown fine-medium SAND, some silt, trace f-c gravel, trace SS 32 S-6 weathered rock fragments (wet) [TILL] 8 32 Inferred Top of Bedrock NLANGAN.COM/DATA/BOS/DATA/1/51010101/PROJECT DATA/ DISCIPLINE/ 139. 50/3 Auger and spoon refusal encountered at 11ft. 12 Bottom of boring at Bottom of Boring 6/30/2020 Boring backfilled with auger 13 cuttings. 15 16 18 19

Log of Boring **B-B-BOR-20** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/30/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 31 ft 31 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 15 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 147. 10 20 30 40 0 Started Drilling at 6/30/2020 4" Dark brown fine SAND, trace silt, trace roots 147. S-1 at 0ft (dry) [TOPSOIL] SS 5 16 Orangish brown fine SAND, some silt 5 (dry) 3 SS S-2 at 2ft Light brown fine SAND, some silt 2 2 3 Auger to 4ft, Easy Augering 143. S-3 at 4ft Light brown fine-medium SAND, trace silt, trace fine gravel 2 ENTERPRISE (dry) 3 S-3 12 5 6 6 \GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace fine gravel, trace silt 10 (dry) SS S-4 8 8 Auger to 8ft, Easy Augering 8 S-5 at 8ft SS Light brown fine-coarse SAND, some fine gravel, trace silt 5 139 ((moist) 8 Light brown silty fine SAND (moist) 9 36 28 13 10 S-6 at 10ft Light brown silty fine-coarse SAND, some fine gravel 10 (moist) [TILL] SS 17 S-6 36 19 14 12 Auger to 15ft, Moderate Augering, Light Chattering 13 14 S-7 at 15ft SS Light brown silty fine-coarse SAND, some fine gravel 16 (wet) [TILL] 18 S-7 16 16 36 18 20 17 Auger to 20ft, Moderate Augering, Medium Chattering 18 19



B-B-BOR-20 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 127. 20 S-8 at 20ft Light brown silty fine-medium SAND, trace fine gravel SS S-8 10 (wet) [TILL] 100 21 Auger to 25ft, Moderate Augering, Medium Chattering 22 23 24 25 S-9 at 25ft Light brown silty fine-coarse SAND, trace fine gravel SS 39 (wet) [TILL] 15 37 26 66 50/0 Auger Refusal Roller bit drill to 30ft. 27 Moderate Drilling, Medium Chattering 28 29 Light brown silty fine-medium SAND, trace fine gravel (wet) [TILL] S-10 at 30.0ft 24 2 Inferred Top of Bedrock +116.8 Bottom of boring at 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 6/30/2020 Boring backfilled with auger cuttings. 32 Bottom of Boring 33 34 35 36 37 38 39 43



Log of Boring B-B-BOR-21(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 138 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 22 ft 22 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 20 14.7 Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 138. 10 20 30 40 Started Drilling at 6/11/2020 8" Dark orangish brown fine-medium SAND, some silt, S-1 at 0ft trace roots, trace black wood fragments 137.2 2 (moist) [TOPSOIL] 16 Dark orangish brown fine-medium SAND, some silt (moist) GPJ S-2 at 2ft Brown SILT, some fine sand, trace roots USE. (moist) SS 48 BORINGS 3 Auger to 4ft S-3 at 4ft Brown SILT, some fine sand 3 ENTERPRISE (moist) S-3 SS 19 5 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown to brown SILT, some fine sand, varved 5 (wet) Probable perched water SS S-4 8 6 Auger to 8ft 8 S-5 at 8ft Brown SILT, some fine sand, varved and mottled 5 (wet) SS 17 9 8 S-6 at 10ft Brown SILT, some fine sand, varved 4 (wet) SS Brown fine-medium SAND, trace silt 7 12 (moist) MDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling S-7 at 15ft SS Brown fine-coarse SAND, some silt, trace f-c gravel 13 (moist) 10 8 S-7 9 17 120. 18 Auger to 20ft, some light rig chatter, hard drilling at 18ft 19 Rods wet to 19ft



Log of Boring B-B-BOR-21(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 138 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 -118. 20 S-8 at 20ft Brown fine-coarse SAND, some silt, some f-c gravel 38 (wet) [TILL] SS 20 20 21 43 23 No Recovery Inferred Top of Bedrock 31 50/1 Auger to 22ft . Report: Log S-9 SS 50/1 S-9 at 22ft Auger and split spoon 23 refusal at 22ft Bottom of Boring Observation well installed. NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATAL_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 5:20:44 PM... Refer to well construction 24 log. 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



B-B-BOR-22 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 24 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 15.5 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 140. 10 20 30 40 Started Drilling at 6/11/2020 24" Dark brown fine-medium SAND, some silt, trace roots 3 S-1 at 0ft (moist) [TOPSOIL] SS <u>۲</u> 19 S-2 at 2ft Brown fine-medium SAND, trace silt (moist) SS 2 20 3 2 Auger to 4ft 3 136. S-3 at 4ft Brown SILT, some fine sand, trace roots 2 ENTERPRISE (moist) 3 S-3 SS 15 5 5 5 134.0 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 5 (moist) SS S-4 12 6 Auger to 8ft 8 S-5 at 8ft Brown fine-medium SAND, trace silt 6 (moist) SS 22 9 13 S-6 at 10ft Brown fine-medium SAND, trace silt AND Light brown SILT 9 Alternating layers about 2-4 inches thick SS 11 S-6 (moist) 21 15 15 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, easy drilling S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel 6 Top of spoon moist (wet) 6 9 S-7 16 9 17 18 19 Auger to 20ft, easy drilling



B-B-BOR-22 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 120.0 20 S-8 at 20ft Brown to brown fine-medium SAND, some silt, trace fine gravel, trace weathered cobble fragments 19 S-8A S (wet) 16 35 21 16 Brown silty fine-medium SAND, trace f-c gravel 51 (wet) [TILL] 22 Auger to 22ft, auger refusal. 87 Brown silty fine-medium SAND, some f-c gravel S-9 at 22ft (wet) [TILĹ] 36 S-9 13 23 Auger refusal at 22ft, grind 19 on obstruction for 30 min 19 1116.C //LANGAN.COMDATA/BOS/DATA1/151010101/PPROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 5:20:47 PM 24 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with auger 25 cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-23** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 134.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/10/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 34 ft 34 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 8 10.6 N/A 29 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 134 10 20 30 40 Started Drilling at 6/10/2020 6" Dark brown fine-medium SAND, some silt, trace fine SS 2 S-1 at 0ft gravel, some roots 2 (dry) [TOPSOIL] 20 Light brown fine-medium SAND, trace silt, trace fine gravel, some roots 2 (dry) [FILL] SS S-2 at 2ft 3 Light brown fine-medium SAND, some silt 3 48 3 6 8 Drive casing to 4.0ft Light brown fine-medium SAND, some silt 10 ENTERPRISE S-3 at 4ft (moist) 12 S-3 SS 7 5 12 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, some silt 12 (moist) 13 SS S-4 2 Stirations of silt layers in 16 spoon. Drive casing to 8.0ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 S-5 at 8ft (wet) 5 SS S-5 9 6 18 S-6 at 10ft Light brown fine-coarse SAND, some fine gravel, trace silt 14 (wet) SS 12 S-6 13 12 11 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drive casing to 14.0ft Brown fine-coarse SAND, some silt, some fine gravel 24 S-7 at 14ft (wet) 21 SS S-7 3 34 27 16 17 18 Drive casing to 19.0ft Brown fine-coarse SAND, some silt, some fine gravel 19 လူ 6 S-8 at 19ft (wet)



Log of Boring **B-B-BOR-23** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134.5 (NGVD29) Sample Data Remarks Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 -114. 20 SS S-8 6 21 21 22 23 S-9 at 24ft Grayish brown fine-medium SAND, some silt, some fine SS 23 Open hole to 24ft gravel S-9 (wet) [TILL] 4 25 102 57 50/3 26 28 29 Drive casing to 29.0ft. Grayish brown fine-medium SAND, some silt, some fine 35 S-10 at 29ft gravel S-10 (wet) [TILL] 19 30 45 64 31 Possible obstruction from 31.5ft to 33ft. 32 33 No Recovery Inferred Top of Bedrock *XXX*+100.5 \\LANGAN.COMDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL -11 SS 0 Roller bit to 34ft, hard drilling Roller bit refusal at 34ft Bottom of Boring 35 S-11 at 34ft Bottom of boring at 6/11/2020 36 Boring backfilled with soil cuttings. 37 38 39 43



Log of Boring **B-B-BOR-24** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 139.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 31 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 8 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 139. 10 20 30 40 Started Drilling at 6/28/2020 Light brown fine-medium SAND, trace silt, trace fine gravel 3 S-1 at 0ft (dry) SS <u>۲</u> 4 9 USE.GPJ S-2 at 2ft SS Light brown fine-medium SAND, some silt 9 4 3 23 Drive casing to 4.0ft Light brown fine-medium SAND, silt lenses 28 ENTERPRISE Drill to 4.0ft, easy drillimg (dry) 14 S-3 SS S-3 at 4ft 3 5 16 20 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 15 (moist) SS 12 S-4 12 8 Drill to 8ft, easy drilling Light brown fine-medium SAND, some fine gravel, trace silt 10 S-5 at 8ft (wet) 15 SS S-5 9 ω 23 18 S-6 at 10ft Light brown fine-medium SAND, trace silt, trace fine gravel 11 (wet) SS 15 S-6 0 13 15 12 .ANGAN.COM/DATA\BOS\DATA1\151010101\PROJECT DATA\ 13 Drill to 14.0ft, easy drilling Brown fine-medium SAND, trace silt 8 S-7 at 14ft (wet) SS S-7 ω 15 12 12 16 17 18 Drill to 19.0ft, easy drilling Brown fine-medium SAND, trace silt, trace fine gravel SS 10 S-8 S-8 at 19ft (wet)



Log of Boring B-B-BOR-24 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139.5 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 119.5 10 20 30 40 20 SS S-8 4 16 21 22 Moderate rig chatter 23 24 Drill to 24.0ft, moderate to Brown fine SAND, some silt, trace fine gravel SS hard drilling (wet) S-9 at 24ft 25 6 7 26 BORINGS_USE.GPJ 28 29 Drill to 29.0ft, moderate to Brown fine SAND, some fine gravel, trace silt 16 ENTERPRISE hard drilling (wet) S-10 S-10 at 29ft 2 30 9 +108.5 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 Bottom of boring at Bottom of Boring 6/28/2020 Boring backfilled with soil 32 cuttings. 33 34 35 36 37 38 39 43



Log of Boring B-B-BOR-24(OW) Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 136.5 (NGVD29) Drilling Company Date Started Date Finished Seaboard Drilling, Inc 6/2/20 6/2/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 20 ft 20.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 15 15.4 Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Doug Feely Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 136 10 20 30 40 Started Drilling at 6/2/2020 6" Brown fine-medium SAND, some f-c gravel, trace silt SS 136. S-1 at 0ft (dry) [FILL] 5 17 Brown fine SAND, trace silt 6 (dry) 6 2 S-2 at 2ft Brown fine SAND, trace silt 5 (dry) SS S-2 8 3 Auger to 4ft S-3 at 4ft Brown fine SAND, trace silt SS (dry) S-3 18 ENTERPRISE 5 5 6 SS S-4 at 6ft Brown fine SAND, trace silt, trace fine gravel 5 (moist) 6 S-4 19 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Auger to 8ft 8 S-5 at 8ft Brown fine SAND, trace silt 3 (moist) SS 3 S-5 8 q 5 Auger to 10ft 10 S-6 at 10ft Brown fine-medium SAND, trace silt (moist) 3 SS 16 12 13 Auger to 15ft, easy drilling BOS\DATA1\151010101\PROJECT DATA\ 15 S-7 at 15ft Brown fine-medium SAND, trace silt SS 2 (wet) S-7 19 16 3 17 18 19 Auger to 20ft, moderate Brown fine-coarse SAND, some silt, trace fine gravel drilling at 18.5ft (wet) [TILL] Inferred Top of Bedrock 20 \LANGAN.COM\DATA\ S-8 at 20ft S-8 at 20tt Bottom of boring at 6/2/2020 -116.2 21 Auger refusal at 20.5ft Observation well installed. Bottom of Boring Refer to well construction 22 log.

23



B-B-BOR-25 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/26/20 6/26/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 40.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 12 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 17 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data /22/2020 5:21:02 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 139. 10 20 30 40 Started Drilling at 6/26/2020 8" Dark brown fine SAND, trace silt, trace roots 3 S-1 at 0ft -138.8 (dry) [TOPSOIL] 5 9 Brown fine-medium SAND, some fine gravel, trace silt (dry) ρ USE.GPJ S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel SS 10 S-2 BORINGS 3 6 12 Auger to 4ft, Easy Augering 11 S-3 at 4ft Brown fine-medium SAND, trace silt, trace fine gravel 39 ENTERPRISE (dry) 9 S-3 SS 5 ω 13 18 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt, trace fine gravel 8 (dry) SS S-4 15 10 Auger to 8ft, Easy Augering 8 S-5 at 8ft Brown fine-medium SAND, trace silt 3 (dry) SS S-5 19 9 6 6 S-6 at 10ft Brown fine-medium SAND, trace silt 9 (dry) S-6 15 10 11 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown gravelly fine-coarse SAND, trace silt 15 (moist) 19 S-7 16 12 11 17 Auger to 20ft, Easy Augering 18 19



Log of Boring **B-B-BOR-25** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 119. 20 S-8 at 20ft Brown fine-coarse SAND, some fine gravel, trace silt SS 12 21 8 9 22 Auger to 25ft, Easy Augering 23 7/22/2020 5:21:02 PM 24 25 S-9 at 25ft Brown fine-coarse SAND, some fine gravel, trace silt (wet) 5 24 26 28 USE.GPJ Auger to 30ft, Easy Augering 28 29 ENTERPRISE 30 S-10 at 30ft Brown fine-coarse SAND, trace silt 108.9 (wet) 9 Light brown fine SAND, some silt 31 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 15 (wet) 21 32 Auger to 35ft, Easy Augering 33 34 35 -11A 00 -11B S-11 at 35ft Light brown silty fine SAND (wet) 18 36 103. 32 Light brown silty CLAY, trace fine sand 24 (wet) 37 Auger to 40ft, Easy Augering 38 39 S-12 at 40ft Light brown fine-coarse SAND, some silt, some fine gravel 58 6 (wet) [TILL] 50/3 \\LANGAN.COM\DATA\BOS\DATA1\15 Bottom of boring at 6/26/2020 Bottom of Boring Boring backfilled with auger 42 cuttings. 43



Log of Boring **B-B-BOR-26** Sheet of 2 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum Elev. + 146 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 39.3 ft 34.3 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 11 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 14 N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data 7/22/2020 5:21:07 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Coring (Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 146. 10 20 30 40 Started Drilling at 6/27/2020 5" Dark brown fine-medium SAND, trace silt, trace 2 145. S-1 at 0ft SS 4 (dry) [TOPSOIL] 8 Light brown fine-medium SAND, trace silt, trace fine 3 3 USE.GPJ SS S-2 at 2ft 3 Brown fine-medium SAND, trace silt (dry) 20 3 8 10 <u>ss</u> Drive casing to 4ft and Brown fine-medium SAND, trace silt 9 ENTERPRISE washout with water (moist) 7 S-3 S-3 at 4ft ω 5 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 Drill to 6ft and washout with Brown fine-medium SAND, trace silt, trace fine gravel 10 water (moist) SS 13 S-4 S-4 at 6ft 4 25 12 8 Drill to 8.0ft and washout Light brown fine-medium SAND, trace silt 9 with water (moist) 11 SS S-5 S-5 at 8ft. 12 9 25 14 21 Drill to 10.0ft and washout Light brown fine-medium SAND, trace silt, trace f-c 15 gravel with water SS 11 S-6 (moist) 12 S-6 at 10ft 17 14 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 ∇ Drill to 14.0ft and washout Brown fine-coarse SAND, trace silt, trace f-c gravel 10 with water (wet) SS S-7 S-7 at 14ft 10 11 15 16 17 18 Drill to 19.0ft and washout Brown fine-coarse SAND, trace silt, trace coarse SS 6 S-8 ω with water gravel (wet)



B-B-BOR-26 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 146 (NGVD29) Sample Data Coring (min) Remarks Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 126.0 20 30 40 20 SS S-8 ω 12 21 22 23 24 Drill to 24.0ft and washout Light brown fine-medium SAND, some silt, trace f-c 26 gravel, trace weathered rock fragments with water 28 (wet) [TILL] SS S-9 at 24ft 16 25 24 34 26 28 29 Drill to 29.0ft and washout Light brown fine-medium SAND, some silt, trace f-c 16 gravel, trace weathered rock fragments with water S-10 23 S-10 at 29ft (wet) [TILL] 2 30 17 20 31 32 33 11SS- 3 50/3 S-11 at 34ft Orangish brown fine-medium SAND, some silt, trace Spoon and drill refusal at weathered rock fragments 4:34 34ft. 35 ·C-1 at 34.25ft Light gray SCHIST; fine to medium grained; very close REC=60"/60" =100% %08= | to close fracture spacing; fractures moderately dipping to near horizontal; strong; rock quality good 3:14 36 RQD=48"/60" [BEDROCK] \overline{c} ğ 8:56 37 3:26 38 39 \\LANGAN.COM\DATA\BOS\DATA1\151010101\PRO. 106. Bottom of boring at 6/29/2020 Boring backfilled with soil Bottom of Boring cuttings.



Log of Boring **B-B-BOR-27** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 138 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 30 ft 30 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 19 15.6 N/A Casing Hammer Automatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 138. 10 20 30 40 Started Drilling at 6/27/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 137. S-1 at 0ft (dry) [TOPSOIL] 4 Brown fine-medium SAND, trace silt, trace fine gravel 20 (dry) USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel 5 5 BORINGS 24 3 12 Drive casing to 4ft and Light brown fine-medium SAND, some silt, trace fine gravel 10 ENTERPRISE washout with water (moist) 5 S-3 SS S-3 at 4ft 12 5 11 12 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 Drill to 6.0ft and washout Brown fine-medium SAND, some silt 11 with water (moist) SS 11 S-4 S-4 at 6ft 4 23 12 8 Drill to 8.0ft and washout Brown fine SAND, some silt 8 with water (moist) 10 SS S-5 at 8ft 12 9 11 13 Drill to 10.0ft and washout Brown fine-coarse SAND, trace silt, trace fine gravel 10 with water (moist) SS 11 S-6 S-6 at 10ft 4 18 19 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drill to 14.0ft and washout Brown fine-coarse SAND, some f-c gravel, trace silt 13 with water (moist) SS S-7 S-7 at 14ft 15 16 14 16 17 18 19 Drill to 19.0ft and washout Brown fine SAND, some silt, trace fine gravel 14 S-8 4 with water (wet)



Log of Boring **B-B-BOR-27** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 138 (NGVD29) Sample Data Remarks Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) -118.0 10 20 30 40 20 SS S-8 4 12 21 22 23 24 S-9 at 24ft No Recovery 10 SS 25 0 10 10 26 28 Grayish brown fine-coarse SAND, some silt, trace 29 Drill to 29.0ft and washout weathered rock fragments 14 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE (moist) [TILL] with water 35 Inferred Top of Bedrock Ś S-10 at 29ft 30 50/3 Drill and spoon refusal encountered at 30ft. 31 Bottom of boring at 6/27/2020 Bottom of Boring Boring backfilled with soil 32 cuttings 33 34 35 36 37 38 39 43

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Casing Hammer Automatic Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Sampler Description Sample Descripti	
Elevation and Datum Elev. + 140 (NGVD29)	22.5 ft Core 1 24 HR. I/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Second Started Source (in) Casing Damerer (in) Automatic Meight (lbs) Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Sample Sample Sample Sample Sample Sample Source (in) Sampler Description Sample Sample Sample Source Sand (lbs) Sample Description Sample Sample Sample Source (in) Automatic Sample Description Sample Des	22.5 ft Core 1 24 HR. I/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Atlantic Testing Laboraties Date Finished Atlantic Testing Laboraties Date Finished Completion Depth Geoprobe 7822DT Size and Type of Bit 3-7/8in Tricone Roller Bit Casing Diameter (in) 4in Casing Hammer Automatic Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Sample Description Size and Type of Bit 3-7/8in Tricone Roller Bit Casing Depth (ft) 4 Water Level (ft.) First 8 Completion Depth 9 Undisturbed 9 Completion Field Engineer Field Engi	22.5 ft Core 1 24 HR. I/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Completion Depth Geoprobe 7822DT Size and Type of Bit	22.5 ft Core 1 24 HR. I/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Geoprobe 7822DT Size and Type of Bit 3-7/Bin Tricone Roller Bit Casing Diameter (in) 4in Casing Depth (ft) 4in Casing Hammer Automatic Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Sample Description Sample Description Sample Description Field Engineer Sample Data	Core 1 24 HR. 1/A V N/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Size and Type of Bit 3-7/8in Tricone Roller Bit 4 Water Level (ft.) 5-1	Core 1 24 HR. 1/A V N/A Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Casing Diameter (in) 4in Casing Depth (ft) 4in Casing Hammer Automatic Casing Depth (ft) 4in Casing Depth (ft) 5in	Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Ain Automatic Casing Hammer Automatic Campler 2-inch-diameter split spoon Campler Hammer Automatic Sampler Description Sample Data Depth Scale Sample Data Sample Data Depth Scale Sample Data Sample	Remarks Fluid, Depth of Casing, Drilling Resistance, etc.) Drilling at 6/30/2020
Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Weight (lbs) 140 Drop (in) 30 Very Sample Description Sample Descript	Fluid, Depth of Casing, , Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
Sampler 2-inch-diameter split spoon Sampler Hammer Automatic Weight (lbs) 140 Drop (in) 30 Very contact the contact of the	Fluid, Depth of Casing, , Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
Sample Hammer Automatic Weight (lbs) 140 Drop (in) 30 Justin Hall Sample Description Sample Description Sample Description Sample Data Sample Dat	Fluid, Depth of Casing, , Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
Elev. (ft) Sample Description Elev. (ft) Sample Description Depth Scale Depth	Fluid, Depth of Casing, , Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
5" Dark brown fine-coarse SAND, some silt, trace roots (moist)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace fine gravel (dry) Light brown fine-medium SAND, trace silt (dry) Roller to the standard of the stan	Fluid, Depth of Casing, , Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
5" Dark brown fine-coarse SAND, some silt, trace roots (moist)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace fine gravel (dry) Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry) Roller to the standard of the stan	, Drilling Resistance, etc.) Drilling at 6/30/2020 Ift
139.6 S Dark brown fine-coarse SAND, some slit, trace roots (moist)[TOPSOIL] Light brown fine-medium SAND, trace slit (dry) Roller to the state of the state o	oft -
Light brown fine-medium SAND, trace silt Light brown fine-medium SAND, trace silt Light brown fine-medium SAND, trace silt A B B B B B B B B B B B B B B B B B B	
Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry) (dry)	rft
Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry) Light brown fine-medium SAND, trace silt (dry)	rft .
Color to the color of the color	
Color to the color of the color	
Color to the color of the color	
.☆.☆ Light brown fine-medium SAND, trace silt	
$\begin{bmatrix} (dry) \\ 5 \end{bmatrix} = \begin{bmatrix} (dry) \\ g \end{bmatrix} \begin{bmatrix} g $	it and drive casing
	ft.
Light brown fine-coarse SAND, trace silt, trace f-m	ift
gravel	
总总部 Light brown fine-coarse SAND, trace silt, trace fine	it to 8ft. Easy drillin
	ort.
	oit to 10ft. Easy
☆☆ gravel 上 コ 目 / drilling	with light rig chatter
$\langle wet \rangle$ $\langle we$	UIL.
127.0	
Light grayish brown fine-coarse SAND, some silt, trace	it to 14ft. Easy to
f-c gravel modera	te drilling with light
Light grayish brown fine-coarse SAND, some silt, trace f-c gravel (wet) [TILL] Roller to moderal medium S-7 at 2	rig chatter 4ft.
50/5	
Light grayish brown fine-coarse SAND, some f-c	it to 19ft. Moderate
gravel, some silt Light grayish brown line-coarse SAND, some 1-c gravel, some silt 20 20 20 20 20 30 30 30 40 18 40 40 40 40 40 40 40 40 40 4	with light to medium



Log of Boring **B-B-BOR-28** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140 (NGVD29) 59 Steele Road, Hudson NH Sample Data Coring (min) Remarks Elev Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale -120.0 20 S-8 at 19ft. (wet) [TILL] S-8 16 21 22 No Recovery. 50/0 Roller bit to 22.5ft. Hard Light gray SCHIST; fine to medium grained; fresh to drilling with heavy rig chatter starting at 21ft. Likely within 5:42 23 slightly weathered; moderate fracture spacing; fractures moderately dipping; strong; rock quality REC=54"/60" =90% rock based on cuttings and 3:15 24 chatter. [BEDROCK] C-1 at 22.5ft RQD=53"/60" NO COR 7 25 3:06 26 4:01 NLANGAN.COMIDATA\BOS\DATA1/151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE 28 Bottom of Boring at Bottom of Boring 6/30/2020 Boring backfilled with soil 29 cuttings. 30 31 32 33 34 35 36 37 38 39 43



Log of Boring **B-B-BOR-29** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 37.5 ft 32.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) 4in 30 N/E N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data /22/2020 5:21:21 PM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist Coring ((Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 139. 10 20 30 40 Started Drilling at 6/27/2020 4" Dark brown fine-medium SAND, trace silt, trace 138.7 3 S-1 at 0ft SS 3 (moist) [TOPSOIL] 8 Brown fine SAND, some silt 2 S-2 at 2ft Brown fine SAND, some silt 2 SS (dry) 16 3 Drive casing to 4.0ft. Drill to 4.0ft, Easy drilling 135.0 S-3 at 4ft Brown fine SAND, trace silt 4 ENTERPRISE (dry) 5 S-3 SS 13 5 8 10 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt (moist) SS S-4 16 Drive casing to 8.0ft, Light rig 12 chatter Drill to 8.0ft 8 Brown fine-medium SAND, trace silt, trace fine gravel S-5 at 8ft 8 (moist) 9 S-5 SS 9 6 12 11 S-6 at 10ft Brown fine-medium SAND, trace silt, trace fine gravel 13 (moist) ss 14 S-6 16 18 19 12 Drive casing to 14.0ft Drill to 14.0ft, Light rig 1010101/PROJECT DATA\ chatter 13 125. S-7 at 14ft Grayish brown fine-medium SAND, some silt, trace 12 weathered rock fragments SS (moist) [TILL] S-7 4 12 13 16 Drive casing to 20.0ft Drill to 20.0ft, Light rig chatter 17 18 19



Log of Boring **B-B-BOR-29** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (NGVD29) Sample Data Coring (min) Remarks Depth N-Value (Blows/ft) Elev Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 -119.0 20 S-8 at 20ft Light brown fine-coarse SAND, some silt, trace fine SS 11 (moist) [TILL] 12 21 10 14 22 Drive casing to 25.0ft. Drill to 25.0ft, Light rig 23 24 25 S-9 at 25ft Grayish brown fine-medium SAND, some silt, trace 13 fine graveL SS 22 8-9 (moist)[TILL] 20 30 Drill to 30.0ft, Moderate rig chatter 28 29 S-10 at 30ft Grayish brown fine-medium SAND, some silt, trace 49 9 fine gravel 50/3 (moist)[TILL] 31 32 Gray SCHIST; fine to medium grained; fresh to slightly; C-1 at 32.5ft close to moderate fracture spacing; fractures 3:56 33 moderately dipping to near horizontal; strong; rock REC=60"/60" =100% quality good [BEDROCK] 6:32 34 RQD=46"/60" ? 7:45 35 36 6:48 6:40 37 \\LANGAN.COM\DATA\BOS\DATA\\\51010101\PROJECT DATA\ Bottom of boring at 38 6/29/2020 Bottom of Boring Bottom of Boring 39 43



Log of Boring **B-B-BOR-30** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 158.5 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 43 ft 38 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 11 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 35 N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) 140 Automatic Kenneth Idem Sample Data /22/2020 5:21:25 PM MATERIAL SYMBOL Remarks Depth Number Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 158. 10 20 30 40 Started Drilling at 6/11/2020 4" Light brown fine-coarse SAND, trace silt, trace roots 158. (dry) [TOPSOIL] S-1 at 0ft SS 6 <u>۲</u> Light brown fine-medium SAND, some silt 4 6 (dry) 6 USE.GPJ S-2 at 2ft SS Light brown fine-coarse SAND, trace silt (dry) S-2 15 BORINGS 3 5 Auger to 4ft, Easy Augering. Light brown fine-coarse SAND, trae silt 3 ENTERPRISE S-3 at 4ft (dry) 5 S-3 12 5 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace fine gravel, trace SS silt (dry) S-4 4 8 8 Auger to 8ft, Easy Augering. Light brown fine-coarse SAND, trace fine gravel, trace S-5 at 8ft silt SS S-5 12 (dry) 9 5 5 S-6 at 10ft Light brown fine-coarse SAND, trace fine gravel, trace 4 SS 4 S-6 (moist) 19 5 6 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 15ft SS Light brown fine SAND, some silt (moist) 6 15 S-7 16 7 17 Auger to 20ft, Easy Augering 18 19



BORINGS USE.GPJ

DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE

Log of Boring **B-B-BOR-30** Sheet of 2 2 Project Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 158.5 (NGVD29) Sample Data Coring (min) Remarks Depth N-Value (Blows/ft) Elev Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 138. 10 20 30 40 20 S-8 at 20ft Light brown fine SAND, some silt SS (moist) 8 21 21 9 9 22 Auger to 25ft, Easy Augering 23 24 25 S-9 at 25ft Light brown silty fine SAND (moist) SS 8 8-9 26 21 6 Auger to 30ft, Easy Augering 28 29 30 S-10 at 30ft Light brown fine-medium SAND, some fine gravel, 11 trace silt (moist) 8 31 41 46 32 Auger to 35ft, Moderate Augering, Light Chattering 33 34 35 Light brown fine SAND, trace medium gravel, trace silt SS S-11 at 35ft (wet) S-11 16 36 9 55 37 Auger to 40ft, Hard JECT DATA\ Augering, Light Chattering 38 Auger Refusal at 38ft. Dark gray SCHIST; fine-medium grained; slightly weathered; moderate fracture spacing; fractures 6:17 C-1 at 38ft shallow dipping; rock quality fair 39 REC=44"/60" =73% [BEDROCK] 3:59 RQD=37.5"/60" $\frac{7}{2}$ 3:46 3:29 2:15 43 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with auger cuttings.



Log of Boring **B-B-BOR-31** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 29 ft 29 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 24 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data /22/2020 5:21:31 PM MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 134. 10 20 30 40 Started Drilling at 6/28/2020 12" Brown fine-medium SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] 2 133.0 16 Light brown fine SAND, trace silt 3 (dry) 2 SS S-2 at 2ft Light brown fine-medium SAND, trace silt 3 4 3 8 9 Drive casing to 4.0ft Light brown fine-medium SAND, trace silt SS 14 ENTERPRISE Drill to 4.0ft, easy drilling (dry) 6 S-3 S-3 at 4ft 10 5 6 6 "LANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 5 (dry) SS S-4 13 6 126.0 8 Drill to 8.0ft, easy drilling Light brown fine SAND, some silt SS 5 S-5 at 8ft (dry) S-5 10 9 7 12 13 Drill to 14.0ft, easy drilling Light brown fine SAND, some silt 4 S-6 at 14ft (moist) 6 SS S-6 6 8 8 16 17 18 Light brown SILT, some fine sand Drill to 19.0ft, easy drilling 6 S-7 13 S-7 at 19ft (moist)



Log of Boring B-B-BOR-31 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 -114.0 20 SS S-7 13 5 21 22 23 Drill to 24.0ft, easy drilling S-8 at 24ft Light brown fine-medium SAND, trace silt, trace fine gravel SS (wet) 13 S-8 25 36 15 26 NLANGAN.COMIDATA\BOS\DATA1/151010111PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 27 28 No Recovery Inferred Top of Bedrock 105.0 29 S-9 at 29ft S-9 SS 0 50/1 Split spoon and roller bit refusal. 30 Bottom of boring at 6/28/2020 Bottom of Boring Boring backfilled with soil 31 cuttings. 32 33 34 35 36 37 38 39 43



Log of Boring **B-B-BOR-32** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134.5 (NGVD29) Date Started **Drilling Company** Date Finished **Atlantic Testing Laboraties** 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 6 N/A 14 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data /22/2020 5:21:36 PM MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 134. 10 20 30 40 0 Started Drilling at 6/11/2020 3" Dark brown fine-medium SAND, trace silt, trace fine 134. 2 S-1 at 0ft gravel, some roots SS 3 (dry) [TOPSOIL] 16 2 2 GPJ 2 SS S-2 at 2ft Light brown fine-medium SAND, trace silt 3 S-2 BORINGS 4 3 6 8 4 Drive casing to 4.0ft. Light brown fine-medium SAND, silt lenses SS 7 ENTERPRISE S-3 at 4ft (moist) 10 S-3 15 5 10 10 ∇ 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, silt lenses 14 SS (wet) 18 S-4 4 7 36 18 8 S-5 at 8ft Light brown fine-medium SAND, silt lenses 13 (wet) 11 SS S-5 4 9 11 11 10 S-6 at 10ft Brown SILT, trace fine sand 9 (wet) SS 13 123 16 Brown fine-medium SAND, silt lenses 14 (wet) 12 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Drive casing to 14.0ft Brown fine-medium SAND, silt lenses 22 S-7 at 14ft (wet) SS S-7 13 15 13 16 -118. 16 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with soil 17 cuttings. 18 19



Log of Boring **B-B-BOR-33** Sheet of 3 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 139 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/3/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 46 ft 41 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 11 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 25 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Number Coring (Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 139. 10 20 30 40 Started Drilling at 6/3/2020 24" Light brown fine-medium SAND, trace gravel 5 S-1 at 0ft (moist) [TOPSOIL] SS 11 <u>۲</u> 15 12 11 -137. S-2 at 2ft SS Light brown fine-medium SAND, trace silt 13 (moist) 10 16 3 9 Auger to 4ft. S-3 at 4ft Light brown fine-medium SAND, trace silt, trace fine SS 5 ENTERPRISE gravel 6 S-3 (moist) ω 5 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace fine 6 gravel SS (moist) S-4 15 8 8 Auger to 8ft. S-5 at 8ft Light brown fine-medium SAND, trace silt, trace fine 9 gravel 14 SS S-5 (moist) 13 9 17 19 S-6 at 10ft. Auger to 10ft Light brown gravelly fine-medium SAND, trace silt 26 SS 25 S-6 24 25 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 15ft SS Light brown fine-medium SAND, some gravel, trace silt 9 8 S-7 4 15 17 Auger to 20ft 18 19



Log of Boring **B-B-BOR-33** Sheet of 3 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 139 (NGVD29) 59 Steele Road, Hudson NH Sample Data Coring (min) Remarks Depth N-Value (Blows/ft) Elev Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 -119.0 20 S-8 at 20ft No Recovery SS 38 S-8 21 0 52 50 22 Auger to 25ft 23 24 25 S-9 at 25ft Brown sandy GRAVEL, trace silt (wet) 12 SS 15 26 2 14 16 Auger to 30ft 28 29 109.0 S-10 at 30ft 27 Brown fine-medium SAND, some gravel, trace silt (wet) [TILL] 100 31 Auger to 35ft 32 33 34 S-11 at 35ft Auger to 40ft No Recovery S-11 SS 0 50/1 36 37 38 39 S-12 at 40ft No Recovery +98.0 C-1 at 41ft 7:17 =51 3:56 RQD=30.5"/60" Gray SCHIST; coarse grained; slightly weathered; 7 43 wide fracture spacing; fractures moderately dipping; intact; rock quality fair; nx core 3:27 [BEDROCK] 3:25



Log of Boring **B-B-BOR-33** Sheet 3 of 3 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (NGVD29) Sample Data Coring (min) Remarks Elev Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) +94.0 10 20 30 40 45 ? 1:13 +93.0 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:21:40 PM ... Report: Log - LANGAN 46 Bottom of boring at 6/3/2020 Boring backfilled with auger cuttings. Bottom of Boring 47 48 49 50 51 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69



Log of Boring B-B-BOR-33A(OW) Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (NGVD29) Drilling Company Date Started Date Finished 6/9/20 6/9/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Mounted Diedrich D-50 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 16 13.8 Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Justin Hall Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 139. 10 20 30 40 Started Drilling at 6/9/2020 Dark brown gravelly fine-coarse SAND, trace silt (dry)[FILL] 6 S-1 at 0ft 14 SS 19 Light brown to dark brown fine-coarse SAND, some f-c 16 gravel (dry)[FILL] SS S-2 at 2ft 13 Light brown fine-coarse SAND, trace f-c gravel (dry)[FILL] 15 13 3 17 15 -135.0 S-3 at 4ft Light brown medium-fine SAND (moist) 10 ENTERPRISE 11 S-3 SS 4 5 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace fine gravel (dry) 5 SS S-4 16 11 11 8 Stop continous sampling -Auger to 22` 9 10 12 |LANGAN.COM|DATA|BOS|DATA1/151010101/|PROJECT DATA| 13 15 16 17 18 19



Log of Boring **B-B-BOR-33A(OW)**

Sheet 2 of

2

Project				roject No.					•		Officer 2 of 2		
Location		Hudson Logistics Center			ıd Da	ıtıım	1510	01010	1				
		59 Steele Road, Hudson NH		Elevation and Datum Elev. + 139 (NGVD29)									
SYN	Elev. (ft)	Sample Description	,	Depth Scale	Number	Туре		Penetr. resist ald BL/6in Q	N (B	-Value lows/ft)	t) (Drilling Fluid, Depth of Casing, Fluid Loss Drilling Resistance, etc.)		
1	117 0			20									
		Bottom of Boring		22 -							Bottom of boring at 6/9/2020 Observation well installed. Refer to well construction log.		
				24									
				25 -									
				27									
				28									
1				- 29 - - 30 -									
				31 -									
				32									
				33 -									
				35									
				36 -									
				37 - 38 -									
				39									
				40 -									
				41 -									
				43									
				44 -									



B-B-BOR-34 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Date Started **Drilling Company** Date Finished **Atlantic Testing Laboraties** 6/10/20 6/10/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 32 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Roller Bit 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 30 15 N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 30 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 142. 10 20 30 40 Started Drilling at 6/10/2020 Light brown fine SAND, trace silt (dry) S-1 at 0ft SS 4 <u>۲</u> 10 USE.GPJ Light brown fine SAND, trace silt S-2 at 2ft 2 SS 3 ω Drill to 4.0ft. Drive casing to 4.0ft S-3 at 4ft Brown fine-coarse SAND, trace fine gravel, trace silt SS 8 ENTERPRISE (moist) 3 S-3 5 4 4 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace fine gravel 2 (moist) SS S-4 Drive casing to 8.0ft Drill to 8.0ft 8 SS SS S-5 at 8ft Brown fine-coarse SAND, trace fine gravel, trace silt 14 (moist) S-5 9 2 S-6 at 10ft No Recovery 2 SS S-6 0 2 12 Drive casing to 15.0ft _ANGAN.COM/DATA\BOS\DATA1\151010101\PROJECT DATA\ Drill to 15.0ft 13 S-7 at 15ft SS Brown fine SAND, trace silt 11 (wet) 11 S-7 16 12 12 17 Drill to 20.0ft Drive casing to 20.0ft 18 19



BORINGS USE.GPJ

VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101

Log of Boring **B-B-BOR-34** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 122.0 20 S-8 at 20ft Brown fine SAND, trace silt SS (wet) 8 21 8 22 Drive casing to 25.0ft Drill to 25.0ft 23 24 25 S-9 at 25ft Brown fine SAND, trace silt 13 (wet) SS 12 26 13 Drive casing to 30.0ft Drill to 30.0ft, rig Chattering 28 29 30 S-10 at 30ft Brown fine-coarse SAND, trace silt, trace fine gravel 18 (wet) [TILL] 21 31 6 11 12 -110.0 32 Bottom of boring at Bottom of Boring 6/10/2020 Boring backfilled with soil 33 cuttings. 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-35** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 131 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 24 ft 24 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 8 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data /22/2020 5:21:52 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 131.0 10 20 30 40 0 Started Drilling at 6/27/2020 3" Dark brown fine-medium SAND, trace silt, trace fine 130. 2 S-1 at 0ft SS 4 (dry)[TOPSOIL] 16 6 Light brown fine SAND, some silt, trace fine gravel 6 USE.GPJ S-2 at 2ft Light brown fine SAND, some silt, trace fine gravel SS 12 S-2 12 30 BORINGS 3 9/2 4 <u>88</u> Refusal encountered at 4.0ft. Light brown fine SAND, some silt, trace fine gravel (moist) ENTERPRISE Offset boring 5ft east and 7 S-3 restart drilling. S-3 at 4ft 5 ω 21 23 6 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 Drill to 6.0ft and washout Light brown fine SAND, some silt, trace fine gravel 10 with water (moist) SS 13 S-4 S-4 at 6ft 9 23 10 8 Drill to 8.0ft and washout Light brown fine SAND, some silt 6 with water (wet) 6 SS S-5 S-5 at 8ft 9 9 8 8 Light brown SILT, some fine sand Drill to 10.0ft and washout 4 with water (wet) 4 S-6 12 S-6 at 10ft 5 12 13 Drill to 14.0ft and washout Light brown SILT, some fine sand 4 with water (wet) 3 SS S-7 S-7 at 14ft 15 6 16 17 18 Drill to 19.0ft and washout Light brown SILT, some f-m sand, trace fine gravel 23 လူ 10 with water (wet)



Log of Boring **B-B-BOR-35** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -111.0 20 SS S-8 10 6 . Report: Log - LANGAN 21 22 23 No Recovery Inferred Top of Bedrock NLANGAN.COMIDATA/BOSIDATA1/1510101010/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 5:21:52 PM ... 24 S-9 at 24ft. Drill and spoon refusal -S-9 SS 0 50/0 encountered at 24ft. 25 Bottom of Boring Bottom of boring at 6/27/2020 Boring backfilled with soil 26 cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 40 43

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Log of Boring **B-B-BOR-36** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 136.5 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 24 ft 24 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) Completion Water Level (ft.) 4in 10 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 136. 10 20 30 40 0 Started Drilling at 6/27/2020 2" Dark brown fine-medium SAND, trace silt, trace roots 136. S-1 at 0ft (dry) [TOPSOIL] SS 9 Light brown fine-medium SAND, some silt 15 9 (dry) 10 S-2 at 2ft Brown fine SAND, some silt 13 (dry) SS 13 22 3 16 22 Drive casing to 4ft. Drill and Light brown fine-medium SAND, some silt, trace fine gravel 16 ENTERPRISE washout with water (dry) 13 S-3 SS S-3 at 4ft 5 4 26 13 13 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Open hole drilling below 4ft. Light brown fine-medium SAND, some silt Drill to 6ft and washout with (moist) 10 SS S-4 water 8 S-4 at 6ft 12 8 Drill to 8ft and washout with Brown fine-medium SAND, some silt, trace f-c gravel water (moist) 11 SS S-5 at 8ft S-5 18 9 17 17 126. Drill to 10ft and washout with Brown fine-medium SAND, trace silt, trace f-c gravel 11 water (wet) SS 14 S-6 S-6 at 10ft 16 14 13 12 TA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drill to 14ft and washout with Brown gravelly fine-coarse SAND, trace silt water (wet) 5 SS S-7 S-7 at 14ft ω 6 9 16 17 119.0 18 Brown fine-medium SAND, some silt, trace fine gravel, Drill to 19ft and washout with 17 trace weathered rock fragments လူ 12 water (moist) [TILL] 22



Log of Boring **B-B-BOR-36** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 136.5 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -116.5 20 S-8 SS 12 50/3 21 22 23 No Recovery Inferred Top of Bedrock NLANGAN.COMDATA/BOSIDATA1/151010101/PPROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 5:21:35 PM 24 Drill and spoon refusal encountered at 24ft. S-9 SS 0 50/1 S-9 at 24ft 25 Bottom of Boring Bottom of boring at 6/27/2020 Boring backfilled with soil 26 cuttings 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-37** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 135 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 28.3 ft 28 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 14 N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind/Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 135. 10 20 30 40 S-1 at 0ft 8" Dark brown fine-medium SAND, trace silt, trace roots 3 134.3 (dry)[TOPSOIL] 6 Light brown fine-medium SAND, some silt 20 SS (dry) ρ USE.GPJ S-2 at 2ft Light brown fine-medium SAND, some silt 8 SS 9 8 3 19 30 Drive casing to 4ft and Light brown fine SAND, some silt, trace fine gravel 21 ENTERPRISE washout with water (dry) 16 S-3 SS S-3 at 4ft 16 5 35 19 22 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 Drill to 6ft and washout with Light brown fine-medium SAND, some silt, trace fine gravel 10 water (moist) SS 15 S-4 S-4 at 6ft 12 16 17 8 Drill to 8ft and washout with Light brown fine-medium SAND, trace silt, trace fine gravel 12 water (moist) 13 SS S-5 at 8ft S-5 10 9 15 13 10 Drill to 10ft and washout with Light brown fine-medium SAND, trace silt, trace fine gravel 8 water (moist) SS 10 S-6 at 10ft S-6 ω 13 13 12 COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 SS Drill to 14.0ft, easy drilling. Light brown fine-medium SAND, trace silt, trace fine gravel 4 S-7 at 14ft (wet) 5 S-7 6 16 17 18 Switch to mud rotary Light brown fine-medium SAND, some silt, some fine 21 လူ 12 Drill to 19.0ft, easy to gravel, trace weathered rock fragments 61 moderate drilling



Log of Boring **B-B-BOR-37** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -115.0 S-8 S-8 at 19ft (wet) [TILL] SS 12 50/3 21 22 23 24 Drill to 24.0ft, moderate to hard drilling SS Light brown fine SAND, some silt, trace weathered rock 11 fragments S-9 S-9 at 24ft (wet) [TILL] ω 25 8 50/4 26 No Recovery Inferred Top of Bedrock VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\15101010_ENTERPRISE_BORINGS_ 28 S-10SS 0 50/3 Drill to 28.0ft, moderate to hard drilling Roller bit refusal at 28ft 29 Bottom of Boring S-10 at 28ft Bottom of boring at 6/28/2020 30 Boring backfilled with soil cuttings. 31 32 33 34 35 36 37 38 39 43

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Log of Boring **B-B-BOR-38** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/27/20 6/27/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 17.8 ft 13 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in N/E N/A Casing Hammer Automatic Drilling Foreman Weight (lbs) Drop (in) 140 Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data /22/2020 5:22:03 PM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 133. 10 20 30 40 Started Drilling at 6/27/2020 4" Dark brown fine-medium SAND, trace silt, trace 133. 2 S-1 at 0ft 4 (moist)[TOPSOIL] 8 Light brown fine SAND, trace silt 5 S-2 at 2ft Light brown fine SAND, trace silt 3 SS 3 16 3 Drive casing to 4.0ft. Easy drilling 5 Drill to 4.0ft 129.5 Light brown fine-medium SAND, trace silt S-3 at 4ft 5 ENTERPRISE (dry) 10 S-3 SS 12 5 10 11 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt 14 (dry) SS 15 S-4 4 Drive casing to 8.0ft. Light rig 14 chatter 13 Drill to 8.0ft. 8 Brown fine-coarse SAND, trace silt S-5 at 8ft (dry) SS S-5 9 6 8 7 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 9 (dry) 8 SS S-6 15 13 10 12 Heavy rig chatter at 13, no advancement DATA/ Drill to 15.0ft 13 Gray SCHIST; fine to medium grained; slightly to C-1 at 13ft 3:40 moderately weathered; very close to close fracture REC=54"/54" =100% spacing; fractures moderately dipping to near =44% 14 horizontal; strong; rock quality poor 5:39 [BEDROCK] NQ CORE RQD=24"/54" 15 5 2:01 16 1:19 17 116.0 S-7 at 17.5ft ·Bottom of boring at 18 Bottom of Boring 6/27/2020 Boring backfilled with soil 19 cuttings.



Log of Boring **B-B-BOR-39** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (NGVD29) **Drilling Company** Date Started Date Finished **Atlantic Testing Laboraties** 6/3/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 32 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) Completion Water Level (ft.) 4in N/E N/A Casing HammerAutomatic Drop (in) Weight (lbs) Drilling Foreman 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data /22/2020 5:22:06 PM MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 143. 10 20 30 40 Started Drilling at 6/3/2020 Light brown fine-medium SAND, trace silt 8 (dry) S-1 at 0ft SS 15 <u>۲</u> 16 13 11 USE.GPJ S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel SS 9 16 3 Spin casing to 4 ft. Drill to 9 4.0ft 8 S-3 at 4ft Brown fine-coarse SAND, trace silt SS 6 ENTERPRISE (moist) 3 S-3 5 3 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 6 (moist) SS S-4 13 3 8 S-5 at 8ft Brown fine-medium SAND, trace silt 3 (moist) SS S-5 9 ω Spin casing to 9 ft. Drill to 6 10.0ft 6 S-6 at 10ft Brown fine-medium SAND, trace silt, trace fine gravel 14 SS (moist) 9 S-6 4 11 12 12 ANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA 13 Mud rotary drilling to 15 ft 14 S-7 at 15ft SS Brown fine-medium SAND, trace silt, trace fine gravel 5 (moist) S-7 12 17 18 Drill to 20.0ft, smooth drilling 19



Log of Boring **B-B-BOR-39** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -123.0 20 S-8 at 20ft Brown fine-medium SAND, some silt SS (moist) 10 18 21 13 12 22 23 Drill to 25.0ft, smooth drilling 24 25 S-9 at 25ft Brown fine SAND, some silt 15 (moist) SS 16 26 15 15 28 Drill to 30.0ft, moderate to hard drilling 29 ENTERPRISE 30 S-10 at 30ft Brown fine-medium SAND, trace silt 17 (moist) 19 15 31 39 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 20 29 32 Bottom of boring at 6/3/2020 Boring backfilled with soil cuttings. 33 Bottom of Boring 34 35 36 37 38 39 43



Log of Boring **B-B-BOR-40** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 130.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/2/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 34.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 25 N/E N/A Casing HammerAutomatic Drop (in) Drilling Foreman Weight (lbs) 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 130 10 20 30 40 Started Drilling at 6/2/2020 Light brown fine SAND, trace silt, trace fine gravel 8 S-1 at 0ft (dry) [FILL] SS 10 <u>۲</u> 13 9 Light brown fine SAND, trace silt, trace fine gravel S-2 at 2ft SS 12 3 Spin casing to 4 ft. Drill to 10 4.0ft 9 <u>88</u> S-3 at 4ft Light brown fine-medium SAND, trace silt, trace fine gravel 10 (dry) [FILL] 6 S-3 5 \sim 6 124. 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Light brown fine-medium SAND, trace silt 6 (dry) SS S-4 8 7 Spin casing to 8 ft. Drill to 5 8.0ft 8 SS S-5 at 8ft Light brown fine-medium SAND, trace silt, trace fine gravel 6 (moist) S-5 9 6 6 S-6 at 10ft Light brown fine SAND, trace silt 6 (moist) SS 9 S-6 6 7 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Spin casing to 15 ft. Drill to 15.0ft 14 S-7 at 15ft SS Light brown fine-coarse SAND, trace silt 6 (moist) 10 S-7 10 12 17 18 Spin casing to 20 ft. Drill to 19



BORINGS USE.GPJ

ENTERPRISE

Log of Boring B-B-BOR-40 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 130.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 -110.5 20 S-8 at 20ft Light brown fine SAND, some silt, trace fine gravel (moist) SS 10 S-8 21 ∞ 25 15 13 22 23 Spin casing to 25 ft. Drill to 25.0ft. Heavy rig chatter and grinding at 24 ft 24 25 S-9 at 25ft Brown to brownish fine-coarse SAND, trace silt, trace fine 44 gravel (moist) ω 29 က် 26 100/5 100/5 28 Drill to 30.0ft. Heavy rig chatter, slow advancement of rollerbit 29 30 S-10 at 30ft No Recovery WOR 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 WOR WOR 32 +98. S-11 at 32.5ft Brown fine-medium SAND, some silt, trace fine gravel SS 33 (moist) 5 S-11 10 34 71 +96.0 Bottom of boring at 6/3/2020 Boring backfilled with soil 35 Bottom of Boring cuttings. 36 37 38 39 43



B-B-BOR-41 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 125 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/2/20 6/2/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 26 ft 26 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 9 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 8 N/A 19 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL /22/2020 5:22:15 PM Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 125. 10 20 30 40 Started Drilling at 6/2/2020 Light brown fine-medium SAND, some fine gravel, trace silt S-1 at 0ft (dry) SS 8 <u>۲</u> 15 USE.GPJ S-2 at 2ft. Gravel in tip SS Light brown fine-coarse SAND, some fine gravel, trace silt 17 13 3 13 11 4 Drive casing to 4.0ft. Brown gravelly fine-coarse SAND, trace silt SS 6 ENTERPRISE S-3 at 4ft (moist) 7 S-3 5 ω 14 19 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft SS Brown gravelly fine-coarse SAND, trace silt 35 S-4 6 (moist) 50/5 118. Possible obstruction Drive casing to 8.0ft. Gray fine to coarse GRAVEL, some coarse sand S-5 SS 2 50/5 S-5 at 8ft (wet) 9 SS S-6 at 10ft Gray fine-coarse SAND, some fine gravel, trace silt (wet) 9 S-6 0 12 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drive casing to 14.0ft, hard Brown gravelly fine-coarse SAND, trace silt 24 drilling (wet) 18 SS S-7 at 14ft S-7 ω 15 14 16 16 17 18 Drive casing to 19.0ft, hard Brown fine-medium SAND, some fine gravel, some silt 26 S-8 9 drilling. (wet) 37



Log of Boring B-B-BOR-41 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 125 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 -105.0 20 SS S-8 9 48 21 Switch to mud rotary technique 22 23 24 Drill to 24.0ft, moderate -S-9 SS 0 50/0 No Recovery drilling. S-9 at 24ft 25 Inferred Top of Bedrock +99.0 26 Roller bit refusal at 26ft. Bottom of boring at 6/2/2020 NLANGAN.COMIDATANBOSIDATA11/1510101011PROJECT DATAL DISCIPLINENGEOTECHNICALNGINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ... Boring backfilled with soil cuttings. Bottom of Boring 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-42** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 124 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished SoilTesting, Inc. 6/2/20 6/2/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 39.5 ft 39.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 11 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 23 N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Number Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 124. 10 20 30 40 Started Drilling at 6/2/2020 24" Light brown fine-medium SAND, trace silt, trace coarse S-1 at 0ft SS 7 <u>۲</u> 24 (moist) [TOPSOIL] 19 24 S-2 at 2ft SS Light brown fine-medium SAND, trace silt, trace coarse 20 USE. sand 29 8 3 (moist) 19 14 Auger to 4ft Light brown fine-medium SAND, trace silt, trace fine gravel 6 ENTERPRISE S-3 at 4ft (moist) 10 S-3 SS 15 5 16 17 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace fine gravel 19 (moist) SS 11 S-4 19 10 8 Auger to 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel 8 S-5 at 8ft (moist) 9 SS S-5 9 6 18 14 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 14 (moist) SS 10 S-6 24 13 10 12 Auger to 15ft ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 15ft SS Light brown fine-coarse SAND, some fine gravel, trace silt 36 37 S-7 12 23 16 17 Auger to 20ft 18 19



Log of Boring **B-B-BOR-42** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 124 (NGVD29) Sample Data Remarks Elev (ft) N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 104.0 20 Light brown fine-coarse SAND, trace silt, trace fine gravel S-8 at 20ft (moist) SS 12 18 21 12 16 22 Auger to 25ft 23 Water level at 23ft 7/22/2020 5:22:19 PM 24 25 S-9 at 25ft Light brown fine-coarse SAND, some fine gravel, trace silt (wet) SS 26 BORINGS USE.GPJ 9 Auger to 30ft 28 29 ENTERPRISE 30 S-10 at 30ft Light brown fine-coarse SAND, some fine gravel, trace silt 13 (wet) 10 10 31 33 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 23 25 32 Auger to 35ft 33 34 35 S-11 at 35ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-11 (wet) 19 11 36 Auger to 39.5ft 37 \\LANGAN.COM\DATA\BOS\DATA\151010101\PROJECT DATA_ 38 39 Inferred Top of Bedrock +84.5 Bottom of boring at 6/2/2020 Auger refusal at 39.5ft Boring backfilled with auger Bottom of Boring cuttings 43



B-B-BOR-43 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135.5 (NGVD29) Drilling Company Date Started Date Finished 6/2/20 6/2/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 41 ft 41 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 35 N/A Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 10 20 30 40 Started Drilling at 6/2/2020 Brown fine-medium SAND, trace silt 5 S-1 at 0ft (dry) [FILL] SS 6 <u>۲</u> 15 6 2 Brown fine-medium SAND, trace silt S-2 at 2ft SS (moist) [FILL] 13 3 -131.5 <u>ss</u> Auger to 4ft Brown fine-medium SAND, trace silt 6 ENTERPRISE S-3 at 4ft (moist) 2 S-3 12 5 2 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft SS Brown fine-coarse SAND, trace silt, trace gravel 3 (moist) 2 S-4 2 8 Auger to 8ft Brown fine-medium SAND, trace silt S-5 at 8ft (moist) SS S-5 18 9 3 S-6 at 10ft Brown fine-coarse SAND, trace silt 4 (moist) SS 4 S-6 6 7 12 Auger to 15ft |LANGAN.COM|DATA|BOS|DATA1/151010101/PROJECT DATA| 13 14 S-7 at 15ft SS Brown fine SAND, trace silt (moist) 10 16 S-7 11 17 Auger to 20ft 18 19



Log of Boring **B-B-BOR-43** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 135.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Depth Scale N-Value (Blows/ft) Elev Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 115. 20 S-8 at 20ft Brown fine SAND SS (moist) 21 10 10 22 Auger to 25ft 23 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt, trace fine gravel 14 (moist) SS 18 26 16 BORINGS USE.GPJ 19 Auger to 30ft 28 29 ENTERPRISE 30 S-10 at 30ft Brown fine-medium SAND, some silt 24 (moist) 27 8 31 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 26 24 32 Auger to 35ft 33 34 35 SS S-11 at 35ft Brown fine-medium SAND, some fine gravel, trace silt (wet) 10 36 16 13 37 Auger to 40ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 38 39 +95. S-12 at 40ft Brown fine-coarse SAND, some fine gravel, trace silt 65 10 (wet) [TILL] Inferred Top of Bedrock 50/3 Bottom of boring at 6/2/2020 Boring backfilled with auger cuttings. 42 Bottom of Boring 43



B-B-BOR-44 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134 (NGVD29) Date Started **Drilling Company** Date Finished **Atlantic Testing Laboraties** 6/10/20 6/10/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 35 ft 35 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 8 15.5 N/A 24 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 134. 10 20 30 40 S-1 at 0ft 24" Brown fine-medium SAND, some silt, trace fine gravel, 2 SS 2 (dry) [TOPSOIL] <u>۲</u> ω 8 S-2 at 2ft Brown fine-medium SAND, some silt, trace fine gravel, SS 2 (dry) [FILL] 3 9 Possible obstruction tilting 5 split spoon Drive casing to 4.0ft No Recovery 6 S-3 at 4ft 3 S-3 SS 0 5 2 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft No Recovery 4 SS Gravel in tip of spoon S-4 WOH WOH Drive casing to 8.0ft Brown fine-coarse SAND, trace fine gravel, trace wood S-5 at 8ft (wet) [FILL] SS S-5 9 2 S-6 at 10ft Brown fine-medium SAND, trace silt, trace fine gravel 2 (wet) SS 2 S-6 ω 2 4 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drive casing to 14.0ft Brown fine-coarse SAND, some fine gravel, trace silt S-7 at 14ft (wet) 5 SS S-7 9 15 6 7 16 18 Drive casing to 19.0ft Brown silty fine SAND 4 S-8 9 S-8 at 19ft (wet)



Log of Boring B-B-BOR-44 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134 (NGVD29) Sample Data Remarks Depth Scale Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 -114.0 20 SS S-8 9 21 22 23 Drive casing to 24.0ft Grayish brown fine-medium SAND, some silt, some gravel 20 S-9 at 24ft (wet) [TILL] 8-9 ω 25 25 50/4 26 28 29 S-10 at 29ft Grayish brown fine-medium SAND, some silt, some gravel, 12 trace decomposed rock S-10 29 (wet) [TILL] 30 44 37 31 32 33 Grayish brown fine-medium SAND, some silt, some gravel, 34 \\LANGAN.COMIDATA\BOS\DATA1\15101011\PROJECT DATA_DISCIPLINE\GEOTECHNICA trace decomposed rock S-11 at 34ft 27 S-11 (wet) [TILL] ω 50 Inferred Top of Bedrock 35 +98.8 50/3 Started Drilling at 6/10/2020 Boring backfilled with soil 36 cuttings Bottom of Boring 37 38 39 43



Log of Boring **B-B-BOR-45** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 129 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 29 ft 29 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) Completion Water Level (ft.) 4in N/E N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott Mcgregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 129.0 10 20 30 40 0 Started Drilling at 6/26/2020 2" Dark brown fine-medium SAND, trace silt, trace roots 128. S-1 at 0ft (moist) [TOPSOIL] SS 9 16 Brown fine-medium SAND, some silt 16 17 S-2 at 2ft Brown fine-coarse SAND, trace silt, trace fine gravel 24 21 20 3 Drive casing to 4.0ft, Light rig 22 chatter 18 Drill to 4.0ft Brown fine-medium SAND, trace silt S-3 at 4ft 16 ENTERPRISE (dry) 10 S-3 SS 13 5 6 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 2 SS (dry) S-4 ω Drill to 8.0ft. Easy drilling 3 8 S-5 at 8ft Brown fine SAND, some silt (dry) SS 10 9 9 S-6 at 10ft Brown fine SAND, some silt 8 (dry) 8 ss S-6 10 10 12 12 Drill to 14.0ft. Easy drilling ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 14ft Brown fine SAND, some silt 4 (moist) SS S-7 15 5 5 16 Drill to 19.0ft. Light rig chatter 17 18 S-8 at 19ft Brown fine-coarse SAND, trace silt, trace fine gravel 33 လူ 16 (moist) 37



Log of Boring **B-B-BOR-45** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 129 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) -109.0 10 20 30 40 20 SS S-8 16 27 21 Drill to 24.0ft. Medium rig 22 23 24 S-9 at 24ft No Recovery S-9 SS 0 50/2 25 26 Drill to 29.0ft. Heavy rig chatter NLANGAN.COMIDATA\BOS\DATA1/151010111PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 27 28 No Recovery Inferred Top of Bedrock 100.0 29 S-10 at 29ft _S-10 SS 0 50/0 Bottom of boring at 6/26/2020 30 Boring backfilled with soil cuttings. 31 Bottom of Boring 32 33 34 35 36 37 38 39 40 42 43

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Log of Boring **B-B-BOR-46** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 134.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 27 ft 22 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 10 8.3 N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 30 140 Scott Mcgregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 134. 10 20 30 40 Started Drilling at 6/26/2020 2" Dark brown fine-medium SAND, trace silt, trace 134. S-1 at 0ft (moist) [TOPSOIL] 10 Light brown fine-medium SAND, trace silt, trace fine 8 8 S-2 at 2ft Grayish brown fine-medium SAND, trace silt, trace fine 7 SS 20 3 (dry) Drive casing to 4.0ft. 12 Drill to 4.0ft, Light rig chatter 15 130. S-3 at 4ft Grayish brown fine SAND, some silt 22 ENTERPRISE (dry) 15 S-3 SS 4 5 17 15 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Grayish brown fine SAND, some silt 9 (dry) 10 SS S-4 10 Drill to 8.0ft. Easy drilling 10 10 8 S-5 at 8ft Grayish brown fine SAND, some silt 8 (dry) 13 S-5 SS 13 9 26 13 14 ∇ S-6 at 10ft Grayish brown fine SAND, some silt, trace fine gravel S-6 8 SS 2 (wet) 50/3 50/3 12 Drill to 14.0ft. Heavy rig DATA/ chatter 13 S-7 at 14ft SS Grayish brown fine-coarse SAND, trace silt, trace fine 29 gravel (moist)[TILL] ŝ 24 15 50/4 50/4 16 Drill to 19.0ft. Heavy rig chatter 17 18 S-8 at 19ft Grayish brown fine-coarse SAND, some silt, trace fine S-8 50 2 gravel



Log of Boring B-B-BOR-46 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 134.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Coring (min) Remarks Elev (ft) Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale 10 20 30 40 114. 20 (moist)[TILL] 21 22 C-1 at 22ft Gray SCHIST; fine to medium grained; fresh to slightly weathered; close to moderate fracture spacing; fractures steeply dipping to near horizontal; strong; 23 REC=60"/60" =100% rock quality fair 4:12 [BEDROCK] 24 RQD=42"/60" 3:19 25 4:09 26 3:35 NLANGAN.COMIDATA\BOS\DATA1/15101011/PROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GR. Bottom of boring at Bottom of Boring 6/26/2020 Boring backfilled with soil 28 cuttings. 29 30 31 32 33 34 35 36 37 38 39 43



Log of Boring B-B-BOR-47(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 30 ft 30 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 27.5 19.7 Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 142. 10 20 30 40 Started Drilling at 6/26/2020 Brown fine-coarse SAND, trace silt, trace f-c gravel S-1 at 0ft (dry) SS 5 <u>۲</u> 16 USE.GPJ S-2 at 2ft Brown fine-coarse SAND, trace silt, trace f-c gravel SS 5 BORINGS 3 S-3 at 4ft Brown fine-coarse SAND, trace silt, trace f-c gravel 3 ENTERPRISE Auger to 4ft (dry) 5 S-3 SS 4 5 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace f-c gravel (dry) SS S-4 13 6 8 Auger to 8ft Brown fine-coarse SAND, trace silt, trace f-c gravel 6 S-5 at 8ft (moist) SS S-5 16 9 11 12 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace f-c gravel 12 (moist) SS 17 S-6 25 25 12 COMIDATA/BOS/DATA1/151010101/PROJECT DATA 13 14 Auger to 15ft, Moderate SS Dark brown fine-coarse SAND, trace silt, trace fine gravel 12 drilling (moist) 20 S-7 S-7 at 15ft 15 10 17 18 123. 19



Log of Boring B-B-BOR-47(OW) Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 122.0 20 Auger to 20ft, Moderate Grayish brown fine-coarse SAND, some silt, some f-c drilling gravel, trace weathered gravel SS 15 S-8 S-8 at 20ft (wet) [TILL] 15 21 19 20 22 23 24 25 Auger to 25ft, Hard drilling Grayish brown fine-coarse SAND, some silt, some f-c gravel, trace weathered gravel (moist) [TILL] S-9 at 25ft SS 14 26 35 28 29 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE No Recovery Inferred Top of Bedrock S-10 at 30ft Bottom of boring at -S-10 SS 0 50/1 6/26/2020 31 Auger to 31ft. Hard drilling and heavy chatter. Auger Bottom of Boring refusal at 31ft. 32 Observation well installed. Refer to well construction 33 34 35 36 37 38 39 43



B-B-BOR-48 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137.5 (NGVD29) Drilling Company Date Started Date Finished Seaboard Drilling, Inc 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Rig B-53 32 ft 32 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 17 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 137. 10 20 30 40 Started Drilling at 6/28/2020 6" Dark brown fine SAND, trace silt, trace roots SS 3 137.0 (dry) [TOPSOIL] S-1 at 0ft 4 16 Brown fine SAND, some silt (dry) SS S-2 at 2ft Brown fine SAND, some silt 3 (dry) 10 3 3 Auger to 4ft, Easy Augering +133.5 <u>88</u> S-3 at 4ft Brown fine-medium SAND, trace silt 4 ENTERPRISE (dry) 7 S-3 4 5 6 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt (dry) SS S-4 20 Auger to 8ft, Easy Augering 8 S-5 at 8ft Brown fine-medium SAND, trace silt, trace fine gravel 5 (dry) SS S-5 16 9 10 10 10 S-6 at 10ft Brown fine-medium SAND, trace silt 8 (dry) SS 10 S-6 21 12 13 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt 8 (moist) 8 S-7 16 6 5 17 Auger to 20ft, Easy Augering 18 19



Log of Boring **B-B-BOR-48** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 137.5 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Depth N-Value (Blows/ft) Elev Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 117. 20 S-8 at 20ft Brown fine-coarse SAND, trace silt, some fine gravel (wet) SS 16 10 21 14 21 22 Auger to 25ft , Moderate Augering, Light Chattering 23 24 25 S-9 at 25ft Brown fine-coarse SAND, some silt, some fine gravel 17 (wet) [TILL] SS 12 26 16 13 Auger to 30ft, Moderate Augering, Light Chattering 28 29 30 S-10 at 30ft SS Brown fine-medium SAND, some silt, trace fine gravel 17 (wet) [TILL] S-10 23 12 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 38 Inferred Top of Bedrock -105.8 Bottom of boring at 32 6/29/2020 Bottom of Boring Boring backfilled with auger 33 cuttings. 34 35 36 37 38 39 43

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Log of Boring **B-B-BOR-49** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 151 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/29/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822DT 31 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 24 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Justin Hall Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 151. 10 20 30 40 Started Drilling at 6/29/2020 6" Dark brown fine-coarse SAND, some silt, trace roots SS 150. S-1 at 0ft (moist) [TOPSOIL] 2 Light brown fine-medium SAND, some silt 4 3 (dry) 2 SS S-2 at 2ft Light brown fine-medium SAND, some silt 2 3 8 3 3 6 Roller bit and drive casing to Light brown fine-medium SAND, some silt SS 10 ENTERPRISE 4ft, Easy drilling (dry) 6 S-3 at 4ft S-3 15 5 9 10 -145.0 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 6 SS (dry) S-4 4 11 8 Roller bit to 8ft and begin Light brown fine-medium SAND, trace silt drilling with water, Easy (dry) SS S-5 drilling 12 9 S-5 at 8ft 8 S-6 at 10ft Light brown fine-medium SAND, some silt 4 (dry) SS 6 S-6 13 8 12 13 Roller bit to 14ft. Easy drilling Light brown fine-medium SAND, some silt 4 S-7 at 14ft (moist) SS S-7 13 9 9 16 18 Roller bit to 19ft. Easy drilling Light brown fine-medium SAND, some silt 8 လူ 4 light rig chatter (moist)



USE.GPJ

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Log of Boring **B-B-BOR-49** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 151 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 131. 20 SS S-8 4 14 21 22 23 24 Roller bit to 24ft. Easy drilling light rig chatter Light brown fine-coarse SAND, some fine gravel, trace silt SS 19 (wet) 8-9 S-9 at 24ft. 25 6 21 18 26 27 28 29 Roller bit to 29ft. Moderate to Light brown fine-coarse SAND, some f-c gravel, trace silt 13 hard drilling, light to heavy (wet) S-10 12 chatter 9 30 S-10 at 29ft 18 17 +120.0 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 Bottom of boring at Bottom of Boring 6/30/2020 Boring backfilled with soil 32 cuttings 33 34 35 36 37 38 39 43

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Log of Boring **B-B-BOR-50** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 142 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/30/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 25.5 ft 25.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Sam Deangelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 142. 10 20 30 40 0 Started Drilling at 6/30/2020 5" Dark brown fine-medium SAND, trace silt, trace roots SS 141. S-1 at 0ft (moist) [TOPSOIL] 4 8 Light brown fine-medium SAND, trace silt 5 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 (dry) 5 13 3 Auger to 4ft. Easy drilling 5 6 S-3 at 4ft No Recovery SS 12 ENTERPRISE S-3 0 5 11 12 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, some fine gravel, trace silt 16 SS (dry) 15 S-4 24 Auger to 8ft. Light rig chatter 13 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel (moist) SS S-5 16 9 8 S-6 at 10ft Grayish brown fine-coarse SAND, some silt, trace fine 13 gravel SS 18 S-6 (moist)[TILL] 16 37 19 22 12 Auger to 15.0ft. Moderate rig 13 14 S-7 at 15ft SS Grayish brown fine-coarse SAND, some silt, trace fine 10 11 (moist)[TILL] 8 S-7 16 14 18 17 Auger to 20ft. Moderate rig 18 19



Log of Boring B-B-BOR-50 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 122.0 20 S-8 at 20ft Grayish brown fine-coarse SAND, some silt, trace fine SS 22 S-8 (moist)[TILL] 20 21 32 39 22 Auger to 25ft. Moderate rig 23 Grayish brown fine-coarse SAND, some silt, trace fine 24 (moist)[TILL] 25 S-9 SS 3 100/4 Inferred Top of Bedrock S-9 at 25ft NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 Split spoon and auger 26 refusal Bottom of boring at Bottom of Boring 6/30/2020 27 Boring backfilled with auger cuttings 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-51** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 156 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/30/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 26 ft 26 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Sam Deangelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 156. 10 20 30 40 0 Started Drilling at 6/30/2020 2" Dark brown fine-medium SAND, trace silt, trace roots 155. S-1 at 0ft (moist) [TOPSOIL] SS 2 4 Light brown fine-medium SAND, trace silt, trace roots 3 2 SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace roots 2 12 3 Auger to 4ft. Easy drilling 5 S-3 at 4ft Light brown fine-coarse SAND, some fine gravel, trace silt SS 6 (dry) 5 S-3 5 6 8 16 150.0 6 S-4 at 6ft Grayish brown fine-coarse SAND, some fine gravel, trace 19 SS (dry)[TILL] S-4 20 Auger to 8ft. Moderate rig 43 chatter 40 8 S-5 at 8ft Grayish brown fine-coarse SAND, some fine gravel, some 8 silt 14 SS S-5 (dry)[TILL] 18 9 18 24 S-6 at 10ft Grayish brown fine-coarse SAND, some fine gravel, some 24 SS 26 S-6 (dry)[TILL] 16 31 37 12 Auger to 15ft. Moderate rig 13 14 S-7 at 15ft SS Grayish brown fine-coarse SAND, some fine gravel, some 11 14 (dry)[TILL] S-7 8 16 15 20 17 Auger to 20ft. Moderate rig 18 19



Log of Boring B-B-BOR-51 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 156 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -136.0 20 S-8 at 20ft Grayish brown fine-coarse SAND, some silt, trace fine SS 15 19 S-8 (moist)[TILL] 23 21 21 20 22 23 24 Grayish brown fine-coarse SAND, some silt, some fine gravel 25 (moist)[TILL] Inferred Top of Bedrock S-9 at 25ft SS S-9 24 10 100/4 100/4 26 Bottom of boring at 6/30/2020 NLANGAN.COMIDATA\BOSIDATA1/1510101011PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ. Boring backfilled with auger 27 Bottom of Boring cuttings 28 29 30 31 32 33 34 35 36 37 38 39 43

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B-B-BOR-52 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/30/20 6/30/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 14 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data /22/2020 5:23:02 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 137. 10 20 30 40 Started Drilling at 6/30/2020 8" Dark brown fine SAND, trace silt, trace roots 2 S-1 at 0ft 136.3 (dry) [TOPSOIL] 4 Light brown fine SAND, some silt 4 5 (dry) USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 3 2 3 5 Auger to 4ft, Easy Augering S-3 at 4ft Light brown fine SAND, some silt SS 3 ENTERPRISE (dry) 2 S-3 16 5 4 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, some silt (moist) SS S-4 16 6 Auger to 8ft, Easy Augering 8 S-5 at 8ft Light brown silty fine-medium SAND SS 6 (moist) -128.3 6 Light brown fine SAND, trace silt 9 2 12 (moist) 8 S-6 at 10ft Light brown fine-medium SAND, trace silt 9 (moist) 8 S-6 20 7 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 15ft SS Light brown fine-coarse SAND, some fine gravel, trace silt 5 (wet) 8 S-7 16 21 6 17 Auger to 20ft, Easy Augering 18 19



Log of Boring B-B-BOR-52 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -117.0 20 S-8 at 20ft Light brown fine-coarse SAND, some fine gravel, trace silt SS 15 (wet) 16 S-8 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:23:02 PM ... Report: Log - LANGAN 24 21 16 21 -115.0 22 Bottom of boring at Bottom of Boring 6/30/2020 Boring backfilled with auger 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-101** Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 154.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 29 ft 29 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 10 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A 15 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description /22/2020 5:23:06 (ft) 154 10 20 30 40 Started Drilling at 6/26/2020 7" Dark brown fine-medium SAND, some silt, some roots 8 S-1 at 0ft (dry) [TOPSOIL] 8 Dark brown fine-coarse SAND, some silt, trace f-c gravel, 20 12 trace roots (dry) 23 152. Dark brown fine-coarse SAND, some f-c gravel, trace silt S-2 at 2ft SS 8 4 3 14 Auger to 4ft 12 S-3 at 4ft Dark brown fine-coarse SAND, some f-c gravel, trace silt 18 ENTERPRISE (dry) 18 S-3 SS 13 5 24 62 148. 6 S-4 at 6ft Dark gray silty fine-medium SAND, trace f-c gravel 31 (moist) [TILL] SS S-4 4 34 Auger to 8ft 45 8 S-5 at 8ft Dark gray fine-medium SAND, some silt, trace f-c gravel, 26 Trace weathered gravel fragments 42 SS S-5 (moist) [TILL] 20 9 45 52 Dark gray fine-medium SAND, some silt, trace fine gravel S-6 at 10ft, spoon bouncing (moist)[TILL] 11 12 13 Auger to 15ft, hard drilling 14 S-7 at 15ft Dark brown silty fine-medium SAND, trace fine gravel, SS 16 trace weathered gravel fragments 14 (wet) [TILL] S-7 16 17 18 27 17 18 Auger to 20ft, hard drilling 19



B-B-BOR-101 Log of Boring Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 154.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 134. 20 S-8 at 20ft Dark gray silty fine-medium SAND, trace clay, trace fine gravel, trace weathered gravel fragments 33 S-8 (wet) [TILL] 20 21 81 48 43 22 23 Auger to 25ft, hard drilling 24 25 S-9 at 25ft Dark gray silty fine-medium SAND, trace clay, trace fine 53 gravel, trace weathered gravel fragments (wet) [TILL] SS 24 26 Auger to 27ft, auger refusal 67 64 S-10 at 27ft, spoon bouncing Dark gray SILT, some f-m sand, trace clay, trace fine 40 at 28.7ft gravel, trace weathered gravel fragments 62 20 (wet)[TILL] Ŝ 28 65 125.8 Bottom of boring at 29 6/26/2020 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ Bottom of Boring Boring backfilled with auger 30 cuttings 31 32 33 34 35 36 37 38 39 43



Log of Boring **B-B-BOR-102** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Truck Mounted Diedrich D-50 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 11.5 N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Justin Hall Sample Data /22/2020 5:23:09 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 137. 10 20 30 40 0 Started Drilling at 6/11/2020 4" Dark brown fine-coarse SAND, some silt SS 136. S-1 at 0ft (moist) [TOPSOIL] 5 Light brown fine-coarse SAND, trace f-c gravel, trace roots, 10 trace silt (dry) 12 S-2 at 2ft Light brown fine-coarse SAND, trace f-c gravel, trace silt 12 13 S-2 16 BORINGS 3 Light Rig Chatter 2'-5' 15 14 Auger to 4ft Light brown fine-coarse SAND, some f-m gravel, trace silt 10 ENTERPRISE S-3 at 4ft (dry) 19 S-3 SS 16 5 20 22 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, some f-c gravel, trace silt 28 (dry) 61 SS S-4 8 Light to Medium Rig Chatter 46 8 Auger to 8ft Light brown fine-coarse SAND, some f-c gravel, trace silt 41 S-5 at 8ft SS (dry) 51 S-5 4 9 47 82 10 S-6 at 10ft Light brown fine-coarse SAND, some f-c gravel, trace silt 43 (moist) <u>ss</u> 37 S-6 20 41 ∇ 39 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft SS Light brown fine-coarse SAND, some fine gravel, trace silt 14 S-7 at 15ft (wet) 18 15 S-7 25 27 17 18 19



Log of Boring B-B-BOR-102 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -117.0 20 Auger to 20ft Light brown fine-coarse SAND, trace fine gravel, trace silt SS 43 S-8 at 20ft (wet) 42 S-8 15 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:23:09 PM ... Report: Log - LANGAN 21 102 60 58 +115.0 22 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with auger 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **B-B-BOR-104** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 128.5 (NGVD29) **Drilling Company** Date Started Date Finished **Atlantic Testing Laboraties** 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 29 ft 29 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 10 Casing Diameter (in) 24 HR. Casing Depth (ft) Completion Water Level (ft.) 4in N/E N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 140 Scott Mcgregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data /22/2020 5:23:13 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 128. 10 20 30 40 0 Started Drilling at 6/26/2020 2" Dark brown fine-medium SAND, trace silt, trace roots 128. (moist) [TOPSOIL] S-1 at 0ft SS 10 Brown fine SAND, trace silt (dry) 6 USE.GPJ S-2 at 2ft Brown fine SAND, trace silt 5 (dry) SS 2 3 Drive casing to 4.0ft, Easy drilling 10 Drill to 4.0ft Brown fine SAND, trace silt S-3 at 4ft 11 ENTERPRISE (dry) 9 S-3 SS 6 5 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, trace silt 6 (dry) SS S-4 10 Drill to 8.0ft, Easy drilling 120.5 8 S-5 at 8ft Brown fine-medium SAND, some silt 5 (dry) SS S-5 10 9 8 S-6 at 10ft Brown fine SAND, some silt (dry) SS S-6 12 8 9 12 Drill to 14.0ft, Easy drilling 13 S-7 at 14ft Brown fine SAND, some silt 5 (moist) 5 SS S-7 13 16 Drill to 19.0ft, Light rig chatter 17 18 S-8 at 19ft Brown fine SAND, some silt, trace fine gravel 5 လူ 12 (moist)



Log of Boring B-B-BOR-104 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 128.5 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 108. 20 SS S-8 12 11 21 Drill to 24.0ft, Medium rig 22 23 24 S-9 at 24ft Dark brown fine-coarse SAND, trace silt, trace fine gravel, SS 36 6 trace decomposed rock fragments 50/3 50/3 (moist) [TILL] 25 26 28 No Recovery Inferred Top of Bedrock +99.5 29 S-10 at 29ft _S-10 SS 0 50/0 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ Bottom of boring at 6/26/2020 30 Boring backfilled with soil cuttings. Bottom of Boring 31 32 33 34 35 36 37 38 39 43



Log of Boring B-R-BOR-01(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 141 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/14/20 6/14/20 **Drilling Equipment** Completion Depth Rock Depth **DIEDRICH D-50** 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 19 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 141. 10 20 30 40 Started Drilling on 6/14/2020 7" Brown fine-medium SAND, trace silt, trace fine gravel, SS 3 S-1 at 0ft 140 3 3 (dry) [TOPSOIL] 16 3 Brown fine - medium SAND, trace silt (dry) USE.GPJ SS S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel 2 3 4 3 5 9 Auger to 4ft, Easy Augering . Brown fine-medium SAND, some fine gravel, trace silt 12 ENTERPRISE S-3 at 4ft (dry) SS 13 S-3 5 13 12 6 \GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt, trace fine gravel 11 (dry) SS 11 S-4 13 13 8 Auger to 8ft, Moderate Brown fine-coarse SAND, some silt, some fine gravel S-5 SS 8 10 Augering, Medium (dry) [TILL] 100/4 Chattering . S-5 at 8ft 9 S-6 at 10ft Brown fine-medium SAND, some fine gravel, trace silt S-6 SS 50/1 Auger to 15ft, Hard (moist) [TILL] Augering, Medium 11 Chattering 12 13 14 S-7 at 15ft SS Brown fine-coarse SAND, some silt, some fine gravel 36 (moist) [TILL] 29 15 S-7 16 32 48 17 Auger to 20ft, Hard Augering, Heavy Chattering 18 19



LANGAN Log of Boring B-R-BOR-01(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 141 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -121.0 20 S-8 at 20ft Brown fine SAND, some silt, some fine gravel SS 28 (moist) [TILL] 28 S-8 16 21 60 32 35 +119.0 22 Bottom of boring on NLANGAN.COMDATA/BOSIDATA1/151010101/IPROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 5:23:17 PM ... Report: Log Bottom of Boring 6/14/2020 Observation well installed. 23 Refer to well construction log. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



B-R-BOR-02 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 145 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/12/20 6/12/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A N/E N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 145. 10 20 30 40 Started Drilling at 6/12/2020 Light brown fine SAND, trace silt (dry) S-1 at 0ft SS 2 <u>۲</u> 18 USE.GPJ 2 S-2 at 2ft Light brown fine SAND, trace silt SS 2 15 3 Auger to 4 ft 3 SS S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel ENTERPRISE (dry) 7 S-3 9 5 9 13 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 14 SS (dry) 11 S-4 7 Auger to 8 ft 10 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel (dry) SS S-5 15 9 9 7 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 18 (dry) SS 20 S-6 22 38 51 12 Auger to 15 ft, rig chattering \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine-coarse SAND, trace silt, trace fine gravel 21 (dry) 20 S-7 17 16 14 128.0 17 Bottom of boring at Bottom of Boring 6/12/2020 Boring backfilled with auger 18 cuttings. 19

B-R-BOR-03 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 149 (NGVD29) Drilling Company Date Started Date Finished **Atlantic Testing Laboraties** 6/12/20 6/12/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 15 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 149. 10 20 30 40 Started Drilling at 6/12/2020 Light brown fine SAND, trace silt 2 (dry) S-1 at 0ft SS 4 <u>۲</u> 18 USE.GPJ Light brown fine SAND, trace silt SS S-2 at 2ft 2 4 3 Auger to 4 ft S-3 at 4ft Light brown fine SAND, trace silt 2 ENTERPRISE (dry) S-3 SS 16 5 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 9 (dry) SS S-4 24 Auger to 8 ft 15 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 (dry) SS S-5 13 9 9 10 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 12 SS SS (dry) 10 S-6 4 8 12 Auger to 15 ft, rig chattering \\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA\ 13 14 15 S-7 SS 1 50/3 S-7 at 15ft -133.8 S-/ at 151. Bottom of boring at Light brown fine SAND, trace silt, trace fine gravel 6/12/2020 16 Bottom of Boring Boring backfilled with auger cuttings. 17 18 19

Log of Boring B-R-BOR-04 Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 155 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 6/8/20 6/8/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 14 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 155. 10 20 30 40 0 Started Drilling at 6/8/2020 3" Light brown fine-medium SAND, some silt, some roots SS 154. 2 (dry) [TOPSOIL] Light brown fine-medium SAND, trace silt, trace roots S-1 at 0ft 2 21 2 (dry) 2 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 2 15 BORINGS 3 2 Auger to 4ft S-3 at 4ft Light brown fine-medium SAND, trace silt 2 ENTERPRISE (moist) 3 S-3 22 5 3 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 3 SS (moist) S-4 16 Auger to 8ft 8 S-5 at 8ft Light brown fine-medium SAND, trace silt (moist) SS S-5 15 9 3 S-6 at 10ft Light brown fine SAND, trace silt 4 SS ((moist) 3 S-6 20 5 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 14ft, easy drilling S-7 at 14ft Light brown fine SAND, some silt 4 <u>ss</u> (moist) 5 S-7 4 15 6 139.0 Bottom of boring at 6/8/2020 Bottom of Boring Boring backfilled with auger cuttings. 17 18 19

B-R-BOR-05 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 149 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/8/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 15.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A N/E N/A Casing Hammer N/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A Sam Deangelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 149. 10 20 30 40 Started Drilling at 6/8/2020 Light brown fine SAND, trace silt, trace roots S-1 at 0ft (dry) SS 6 <u>۲</u> ω 6 USE.GPJ S-2 at 2ft Light brown fine SAND, trace silt, trace roots SS 6 13 3 Auger to 4 ft S-3 at 4ft Light brown fine-medium SAND, trace silt SS 7 ENTERPRISE (dry) 10 S-3 17 5 9 11 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt (dry) 13 SS S-4 8 Auger to 8 ft 17 8 S-5 at 8ft Light brown fine-medium SAND, trace silt 15 (dry) 18 SS S-5 16 9 16 18 S-6 at 10ft Light brown fine-medium SAND, trace silt 20 (dry) SS 18 S-6 8 25 28 12 Auger to 15 ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA\ 13 14 S-7 at 15ft Light brown fine-coarse SAND, trace silt, trace fine gravel 14 $\mathbb{R}^{\mathbb{R}}$ 133.3 50/2 16 Bottom of boring at 6/9/2020 Boring backfilled with auger Bottom of Boring cuttings. 17 18 19

LA	\VLI/	1/V		Log		Boring		B-F	R-B	OR-0	6	_	Sheet 1	(of [^]	1
Project	Hudson Logistics Ce	nter			Pr	oject No.			1510	01010	1					
Location	59 Steele Road, Hud				Ele	evation a	nd Da		Elev	. + 16	45 (I	NGVE	720)			
Drilling Comp	any	13011 141 1			Da	ate Starte	d						Finished			
Drilling Equip	SoilTesting, Inc. ment				Co	ompletion	Dept	th	6/	29/20		Rock	Depth	6/29/2	20	
Size and Type	Mobile Drill B53 e of Bit							. 1	Dist	17 ft urbed		Uı	ndisturbed	N/ Core		
Casing Diame	4in Hollow Stem Aug	er	Casin	g Depth (ft)		umber of	•	oles	First		7	Co	- ompletion	24 H	- R.	
Casing Diame	N/A ner	Weight (lbs)	Di	N/A rop (in)		ater Leve	` '		∇		8		▼ N/A	Ī	N/A	
Sampler Ham	2-inch-diameter split	J , ,	N/A	' ` ^N/A		eld Engin			ike k	(enne	dy					
Sampler Ham		Weight (lbs)	140 Di	rop (in) 30	FIE	eia Engin	eer	R	eid E	Balkind	i					
MATERIAL (tt) 194.5		Sample Descrip	tion			Depth Scale	Number	Туре		Penetr. resist ald BL/6in Q	N-\ (Blo	/alue ws/ft)	Re (Drilling Fluid, Fluid Loss, Drilli	marks Depth of ng Resist	f Casing, tance, etc.)	
164.5	6" Dark brown fine	-medium SAND, tr	ace silt, tr	ace fine		0 -	S-1A	SS		4 4	9•	30 40	Started Drill S-1 at 0ft	ing at 6	6/29/2020	0
4. 小小	Light brown fine-co (dry) Light brown fine-m (dry)					2 -	S-1B	SS		5 6 5	11		S-2 at 2ft			
	Light brown fine S/ (moist)	AND, some silt				4 -	S-3	SS	20	6 7 10 9 8	17•		S-3 at 4ft. A	uger to	o 4ft	
	Light brown fine S/ (moist)	AND, some silt			∇	6 - - 7 -	S-4	SS		8 8 6 7 7	13•		S-4 at 6ft			
156.5	Light brown SILT, s (wet)	some fine sand			<u>-</u> <u>V</u>	8 -	S-5	SS	11	7 9	16+		S-5 at 8ft. A	uger to	o 8ft	
154.5	Light brown fine-m (moist)	edium SAND, trac	e silt			10 -	9-S	SS		5 5 5 5	10		S-6 at 10ft			
						13 -										
	Light brown fine-m (moist)	edium SAND, trac	e silt, trace	e fine gravel		15 -	S-7	SS	11	6 7 8 9	15•		Auger to 15 S-7 at 15ft	ft. Eas <u>y</u>	y drilling	
147.5	Bottom of Boring					17 -				3			Bottom of b 6/29/2020 Boring back cuttings	_		
						19 -										



Log of Boring B-R-BOR-07 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 162 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 8 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott McGregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 162. 10 20 30 40 Started Drilling at 6/28/2020 12" Brown fine-medium SAND, trace silt, trace roots 3 S-1 at 0ft (dry) [TOPSOIL] 5 161.0 8 Light brown fine-medium SAND, trace silt, trace roots 3 USE.GPJ S-2 at 2ft Light brown fine SAND, some silt 3 (dry) SS 5 20 3 9 13 4 Drive casing to 4.0ft Light brown fine SAND, some silt, trace fine gravel 22 ENTERPRISE Drill to 4.0ft, smooth drilling (dry) 10 S-3 SS S-3 at 4ft 5 4 11 11 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace fine gravel 8 (moist) SS S-4 10 8 Switch to mud rotarty drilling Light brown fine-medium SAND, trace silt, trace fine gravel 8 Drill to 8.0ft, easy drilling (wet) 8 SS S-5 S-5 at 8ft 9 10 11 S-6 at 10ft Light brown fine-coarse SAND, some fine gravel, trace silt 9 (wet) SS 9 S-6 ω 10 5 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA\ 13 Drill to 14.0ft, easy drilling Light brown fine-coarse SAND, some fine gravel, trace silt 8 S-7 at 14ft (wet) 6 SS S-7 က 8 9 146.0 16 Bottom of boring at Bottom of Boring 6/28/2020 Boring backfilled with soil 17 cuttings. 18 19



Log of Boring B-R-BOR-08 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 136 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished **Atlantic Testing Laboraties** 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 14 N/A Casing Hammer N/A Weight (lbs) Drop (in) Drilling Foreman 30 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Olivia Chasse Automatic Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 136. 10 20 30 40 0 Started Drilling at 6/9/2020 3" Dark brown fine-medium SAND, trace silt, trace fine 135. S-1 at 0ft gravel, some roots 3 (dry)[TOPSOIL] SS 5 Orangish brown SAND, trace silt, trace fine gravel (dry) [FILL] 5 SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-2 3 6 5 4 Drive casing to 4.0ft No Recovery SS 3 ENTERPRISE S-3 at 4ft 3 S-3 0 5 6 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt (dry) SS S-4 4 13 8 Drive casing to 8.0ft Light brown fine SAND, some silt SS S-5 at 8ft (dry) 5 S-5 9 6 9 S-6 at 10ft Light brown fine-medium SAND, trace silt 12 (dry) SS E 12 S-6 12 9 12 12 (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 Drive casing to 14.0ft Brown fine-medium SAND, trace silt 6 S-7 at 14ft (wet) SS S-7 ω 15 9 10 120.0 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with soil cuttings. 17 18 19

Log of Boring B-S-BOR-01 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 149.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/12/20 6/12/20 **Drilling Equipment** Completion Depth Rock Depth Truck Mounted Diedrich D-50 10.5 ft 10.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) N/A N/A N/E N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Justin Hall Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 149. 10 20 30 40 Started Drilling on 4" Dark brown fine-coarse SAND, some silt, some organics 149.2 3 6/12/2020. (moist) [TOPSOIL] SS 3 S-1 at 0ft 13 Light brown fine SAND, trace silt 3 (moist) 3 GPJ SS S-2 at 2ft Light brown fine SAND, some silt 5 8 16 3 Light brown fine-coarse SAND, trace fine gravel, trace silt 16 16 S-3 at 4ft Light brown fine-coarse SAND, some fine gravel, trace silt 11 ENTERPRISE (dry) 16 S-3 SS 10 5 Light Rig Chatter 4'-7' 25 25 6 /LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace fine gravel, trace silt 20 (dry) 33 4 7 SS 33 35 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel 38 S-5 (dry) ω 84 9 100/2 100/2 Medium to Heavy Rig Chatter 8'-10.5'. Auger to 10' No Recovery 10 Auger grinding at 10', Inferred Top of Bedrock continue augering through 139.0 S-6 SS 0 100/0 obstruction S-6 at 10.5ft. Auger and Bottom of Boring spoon refusal 10.5ft. Bottom of boring on 12 6/12/2020. Boring backfilled with auger cuttings. 13 15 16 18 19

L	4	/V <i>G</i> /	1/V		Log	of B	oring		B-S	6-B0	OR-0	2		Sheet 1	of 1
Project		Hudaan Lagistics Co	ntor			Pro	ject No.			1510)1010	1			
Location		Hudson Logistics Ce	illei			Ele	vation a	nd Da	atum	1510	71010	1			
Drilling C	omno	59 Steele Road, Hud	Ison NH			Dat	e Starte	4		Elev	. + 16	3 (NG) Finished	
Drilling C	ompe	SoilTesting, Inc.				Dai	e otarte	u		6	8/8/20		Jale i	IIIISIICU	6/8/20
Drilling E	quipn	nent				Coi	mpletion	Dep	th			ı	Rock I	Depth	
Size and	Туре	CME Truck-Mounted of Bit	Drill Rig			+			. 1	Distu	17 ft irbed		Und	disturbed	N/E Core
Casing D	iame	4in Hollow Stem Aug	jer		Casing Depth (ft)	+	mber of			First		7	Cor	npletion	- 24 HR.
Ž		N/A	\\\/-:\\ (b-\)		NÌ/Á		ter Leve			∇		N/E	Ţ		<u>▼</u> N/A
Casing H	lamm	^e Ñ/A	Weight (lbs)	N/A	Drop (in) N/A		ling For	eman		hn K	(nepp	le			
Sampler	Lomi	2-inch-diameter split	spoon Weight (lbs)		Drop (in)	Fie	ld Engin	eer							
:	ı ıaıııı	Automatic Automatic	Troigin (izo)	140	30 John (III)	Н,		1	Ke		th Ide				
SYM	Elev. (ft)		Sample Descri	ption			Depth Scale	Number	Туре		Penetr. resist BL/6in	N-Va (Blows	s/ft)	Rem (Drilling Fluid, D Fluid Loss, Drilling	
3 4 34	162.7	3" Brown fine SAN	D, trace silt				— 0 —		Ħ		3	10 20 0	10	Started Drillin S-1 at 0ft	ng at 6/8/2020
777		(dry) [TOPSOIL]				_/ [- 1 -	S-1	SS	12	2	۱,		3-1 at til	
11/2004						ŀ		-			2 3				
MINICAL CONTROLL STATES TO CHARGE TO		Brown fine-medium (dry)	n SAND, trace sil	t		Ī	- 2 -				4	$ \setminus $		S-2 at 2ft	
2		(dry)				E	- 3 -	S-2	SS	15	7	11			
	-159.0					Ė		-			14				
	-159.0	Brown fine-medium	n SAND, trace sil	t, trace	fine gravel		- 4 -	1			15			Auger to 4ft, S-3 at 4ft	easy drilling
		(dry) [TILL]				Ī	- 5 -	S-3	SS	16	28		57)	
						Ė	- :	- "			29 27				
		Brown fine-medium	n SAND, trace sil	t, trace	fine gravel	Ē	- 6 -	T	I		42			S-4 at 6ft	
		(dry) [TILL]				Ī	- 7 -	S-4		15	44		87	•	
						Ė		-	SS		43 50				
		Brown fine-medium	n SAND, trace sil	t, trace	fine gravel	Ī	- 8 - -				12			Auger to 8ft, S-5 at 8ft	easy drilling
		(dry) [TILL]				E	- 9 -	S-5	SS	4	24		55	·	
								-			31 37				
		Brown fine-medium	n SAND, trace sil	t, trace	fine gravel	Ī	- 10 -				39			S-6 at 10ft	
		(dry) [TILL]				Ē	- 11 -	S-6	SS	18	45		95	•	
						Ė		<u> </u>			50 50/3			Auger to 15ft	, easy drilling,
						Ī	- 12 -							light chatter	, easy unining,
						<u> </u>	_ _ 13 -								
						ļ	-								
						ļ	- 14 -	1							
		Brown gravelly fine	e-medium SAND	trace s	ilt	Ē	_ _ 15 -				35			S-7 at 15ft	
		(moist) [TILL]	, modium oailo,			į					35 50				
						ļ	– 16 –	S-7	SS	13	42		92	•	
	-146.0					[17	_	柙		28			Bottom of bo	ring at 6/8/2020
4		Bottom of Boring				ļ	- 40								lled with auger
						ļ	– 18 –							Julings.	
							19 -	1							
LAN						ļ		1							
							 20								

Log of Boring B-S-BOR-03 Sheet of 1 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum Elev. + 163 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc. 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Rig B-53 15.5 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E V N/A N/A N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Jeff Nitch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 163. 10 20 30 40 Started Drilling at 6/28/2020 6" Dark brown fine SAND, trace silt, trace roots SS 162. S-1 at 0ft (dry) [TOPSOIL] 5 7 Light brown fine-medium SAND, trace silt, trace fine gravel 5 USE.GPJ 2 SS S-2 at 2ft Light brown fine-medium SAND, some fine gravel, trace silt 6 S-2 12 3 6 Auger to 4ft, Easy Augering 4 S-3 at 4ft Light gray fine SAND, some silt, trace fine gravel 10 ENTERPRISE (dry) 15 S-3 SS 16 5 35 20 19 6 S-4 at 6ft \GINTLOGS\151010101 Light gray fine SAND, some silt, trace fine gravel 20 (dry) 17 SS S-4 13 7 36 19 Auger to 8ft, Moderate 20 155.0 Augering, Light Chattering S-5 at 8ft 8 Light brown fine SAND, some silt, trace fine gravel 10 (dry) [TILL] 11 SS S-5 16 9 21 21 10 S-6 at 10ft Light brown fine SAND, some silt, trace fine gravel 19 (dry) [TILL] SS 27 S-6 19 21 21 12 Auger to 15ft, Moderate Augering, Light Chattering 13 Auger Refusal at 13.5ft Light brown fine-medium SAND, some silt, trace fine gravel SS 22 S-7 at 13.5ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\PRC (moist) [TILL] 28 S-7 20 36 15 38 XXXXX+147.5 Bottom of boring at 16 6/29/2020 Bottom of Boring Boring backfilled with auger cuttings. 17 18 19

		/VU/	1/V		Log	of Bo		E	3-S-E	OR-0)4	-	Sheet	1	of	1
Project						Proj	ect No.		45	04046						
Location		Hudson Logistics Ce	enter			Elev	ation and	d Dat		01010)1					
		59 Steele Road, Hud	dson NH							v. + 16	61 (NC	SVD29	9)			
Drilling C	Compa					Date	e Started				`		Finished			
D :::: E		SoilTesting, Inc.								6/29/20)		D "	(6/29/20	
Drilling E	quipn					Con	npletion D	eptn	l	17 f		Rock	Depth		N/E	
Size and	І Туре	Truck Rig of Bit				١			Dis	turbed	L	 Ur	disturbed		Core	
0 : 5		4in Hollow Stem Aug	ger	10		Nun	nber of Sa	ample			7		1.0	-	04.115	-
Casing I Casing I Sampler Sampler	Jiame	er (in) N/A		ا	Casing Depth (ft) N/A	Wat	er Level ((ft.)	Firs	51 7 -	N/E		mpletion	N/A	24 HR.	N/A
Casing H	lamm	eŊ/A	Weight (lbs)	N/A	Drop (in) N/A	Drill	ing Foren	nan					_			
Sampler		2-inch-diameter split	spoon			Field	d Engine	>r	John	Knepp	le					
Sampler	Hamr		Weight (lbs)	140	Drop (in) 30	_ Field	u Engine	3 1	lack	Berritt						
		Automatic		140	30	'				ample D	ata					
MATERIAL SYMBOL	Elev.		Sample Descr	ription			Depth Scale	nber	Type Recov.	Penetr. resist BL/6in	N-V	alue ws/ft)	(Drilli		narks Depth of Cas	sina.
SA	(ft) +161.0		•	•				_	Red T	Pen BL/	10 20	30 40	Fluid Lo	ss, Drilling	g Resistanc	e, etc.)
<u> </u>	160.8	∼ 2" Dark brown fine (moist) [TOPSOIL]	e-medium SAND	, trace si	ilt, trace roots	7	- 0 	S-1A	目	3			Starte S-1 a		ng at 6/29	9/2020
MATERIAL SYMBOL		(, , ,				-/	- 1 =	٥	9	6	13 •		0-1 a	· OIL		
		Light brown fine-m (dry)	nedium SAND, tr	ace silt		E		S-1B	"目	7						
		Light brown fine-m	nedium SAND tr	ace silt		E	- 2 		\blacksquare	4	1		S-2 a	t 2ft		
		(dry)	iodiam of a to, a	acc ont		E	=	_	丨.	4						
						E	- 3 -	S-2	2 ■ 8 18	5	9		Auge	r to 4ft.	Easy dril	ling
						Ė	- 4		14 18	7	$\rfloor \ \ $					
		Light brown fine-co	oarse SAND, tra	ce silt, tr	ace fine gravel	F	* =		Ħ	4			S-3 a	t 4ft		
		(dry)				E	- 5 -	S-3	3 目 4	5	14					
						E		0)	Ĭ	9	$ \ \ \rangle$					
		Brown fine-coarse	SAND some sil	It trace f	fine gravel	E	- 6 🕂		-	13	1	$\setminus \mid \cdot \mid$	S-4 a	t 6ft		
		(dry)	O/ II VD, SOITIC SII	11, 11400 1	inio gravor	E	=	_	14	20						
						F	- 7 -	S-4	8 目 4	21		41	Auge	r to 8ft.	Moderate	e rig
	+153.0					F	, =			31		1/	chatte			
		Grayish brown fine	e-coarse SAND,	some sil	t, trace fine	F	- 8 +		16	8		$\parallel \parallel \parallel$	S-5 a	t 8ft		
		gravel (dry) [TILL]				E	- 9 =	S-5	3 <u></u> 92	19		34				
						E	-	0)	"目"	15		$\parallel \parallel \parallel$				
		Grayish brown fine	e-coarse SAND	some sil	t trace fine	E	- 10 📑			17	1		S-6 a	t 10ft		
		gravel	, , , , , , , , , , , , , , , , , , , ,		,	E	=	<u>.</u>	15	14						
		(dry) [TILL]				E	- 11 -	8-6	15	15	2	•				
						E	- 12 -			16						
						E	12						Auge		. Modera	ite rig
						F	- 13 -									
						F	=									
						F	- 14 =									
						E	=									
		Grayish brown fine	e-coarse SAND,	some sil	t, trace fine	Ė	- 15 +		T	10	1		S-7 a	t 15ft		
		gravel (dry) [TILL]				Ė	- 16 -	S-7	28 ■ 82	18		33				
						E		က ြ	20	15						
	144.0					<u> </u>	- 17 🚽	+	丰	16			Botto	m of bo	ring at	
		Bottom of Boring				F	=						6/29/2	2020	_	
						F	- 18 -						Boring		lled with	auger
						F	10 =							_		
						F	- 19 -									
						F	_ ₂₀									

L	4	/V <i>L</i> J/	4/V		Log	of B	oring		B-S	S-BC	DR-0	5		Sheet 1	of	1
Project		Hudson Logistics Ce	enter			Pro	ject No.			1510	10101	1				
Location		-				Ele	vation a	nd Da	atum				·\	10)		
Drilling C	Compa	59 Steele Road, Hud any	ison NH			Da	te Starte	d		Elev.	+ 148	3 (NG		Finished		
Drilling E	auipn	SoilTesting, Inc.				Co	mpletion	Dept	:h	6	/8/20		Rock	C Depth	6/8/20	
		CME Truck-Mounted	d Drill Rig								9 ft				9 ft	
Size and		4in Hollow Stem Aug	ger			Nu	mber of	Samp	oles	Distu	rbed	5		ndisturbed -	Core	-
Casing D		N/A		C	asing Depth (ft) N/A		ater Leve			First		N/E		ompletion N/A	24 HR.	N/A
		^e N/A	Weight (lbs)	N/A	Drop (in) N/A	Dri	lling Fore	eman		m D	eange	elis				
Casing H		2-inch-diameter split	spoon Weight (lbs)		Drop (in)	Fie	ld Engin	eer				, iio				
:	Tiaiiii	Safety Safety	111-1911 (121)	140	30	1			Ja		erritt ple Da	ata				
MATERIAL SYMBOL	Elev. (ft) +148.0		Sample Desc	ription			Depth Scale	Number		Recov. (in)	Penetr. resist BL/6in	N-Va (Blow 10 20	vs/ft)	(Drilling Fluid, Fluid Loss, Drillin	ng Resistance,	etc.)
2020		Light brown fine SA (dry)	AND, trace silt				— 0 –		SS		3			Started Drill S-1 at 0ft	ng at 6/8/2	:020
177		,					_ 1 -	S-1	SS	10	3 4	' †				
		Light brown fine SA	AND, trace silt				2 -				3			S-2 at 2ft		
		(dry)					3 -	S-2	SS	12	5	9		Auger to 4 ft		
PKISE BOL		Light brown fine-co	oarse SAND, tra	ice silt, tra	ace fine gravel		4 -	3			6 6 7			S-3 at 4ft		
HNICALGINILOGS/15/10/10/10/1 EN ERFRISE BORINGS USE GFU		Light brown fine-co	oarse SAND, tra	ice silt, tra	ace fine gravel		- 5 - - : - : - 6 -	S-3	SS	10	18 21 30	25		S-4 at 6ft		
GSV151010		(dry)			-		- - - -	S-4	SS	13	26 35		6	Auger to 8 ft		
L COLUMNIC		Light brown fine-co (dry) Inferred Top of Bed		me fine g	ravel, trace silt		8 -	S-5	SS	2	42 25 34			S-5 at 8ft		
	+138.9	Bottom of Boring	drock /		γ		9 - - - - - 10 -				50/1		50/	Bottom of bo Boring back	oring at 6/8	
NE/GEO							_ 11 -							cuttings.		
DISCIPL							12									
I DATA							13									
L KONEC							_ 14 -									
1010101							15									
DAIA1(15)							16 - 16 -									
A/BOS/L							17 -									
OMICA							18 -									
ILANGAN.COMIDATAIBOSIDATATTISTOTOTIPROJECT DATA <u>, DISCIPLINE</u> GEOTEC							- - 19 -									
		<u> </u>					_ 20 _							1		

Log of Boring B-S-BOR-06 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 144 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished Seaboard Drilling, Inc 6/28/20 6/28/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Rig B-53 8.5 ft 8.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 144. 10 20 30 40 0 Started Drilling at 6/28/2020 6" Dark brown fine SAND, trace silt, trace roots SS 2 143. (dry) [TOPSOIL] S-1 at 0ft 3 9 Orangish brown fine-medium sand, some silt 6 (moist) 5 USE.GPJ SS S-2 at 2ft Light brown fine SAND, trace silt 6 8 3 Auger to 4ft, Easy Augering 8 S-3 at 4ft Light brown fine-medium SAND, some silt 5 ENTERPRISE (dry) 9 SS Light brown fine-coarse SAND, trace silt, trace fine gravel 5 16 11 (dry) 21 6 /LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 17 SS (dry) 21 S-4 15 19 Auger to 8ft, Moderate Light brown sandy fine GRAVEL, trace silt 8 Augering, Medium (dry) S-5 SS 20 က Chattering Inferred Top of Bedrock 135.3 S-5 at 8ft 9 Bottom of boring at 6/29/2020 Boring backfilled with auger 10 Bottom of Boring cuttings 12 13 15 16 18 19

Log of Boring **B-S-BOR-07** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 162 (NGVD29) Date Started **Drilling Company** Date Finished 6/27/20 6/27/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 17 ft 17 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 162. 10 20 30 40 Started Drilling at 6/27/2020 Dark brown fine SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] SS 3 S-1 3 3 2 Dark brown fine SAND, trace silt, trace roots SS S-2 at 2ft 2 (dry) [TOPSOIL] 2 16 158.8 3 Light brown fine-medium SAND, trace silt Auger to 4ft, Easy Augering S-3 at 4ft Light brown fine-medium SAND, trace silt 4 ENTERPRISE (dry) 5 S-3 SS 10 5 3 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 9 (dry) SS 11 S-4 10 9 Auger to 8ft, Easy Augering 10 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt 6 (moist) 6 SS S-5 4 9 11 18 Light brown fine-coarse SAND, some silt, some fine gravel S-6 at 10ft 32 (moist) [TILL] SS 35 S-6 8 38 50 12 Auger to 15ft, Easy Augering 13 14 S-7 at 15ft SS Light brown fine SAND, some silt, some fine gravel 17 (moist) [TILL] 18 15 (\LANGAN.COM\DATA\BOS\DATA1\) S-7 16 45 40 17 Bottom of boring at Bottom of Boring 6/27/2020 Boring backfilled with auger 18 cuttings. 19

Log of Boring **B-S-BOR-08** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 161.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/10/20 6/10/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 10 N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 161. 10 20 30 40 Started Drilling at 6/10/2020 6" Light brown fine-medium SAND, some silt, trace f-c SS 161. S-1 at 0ft gravel, some roots 8 (moist) [TOPSOIL] 16 Light brown fine-medium SAND, trace silt, trace f-c gravel 6 USE.GPJ S-2 at 2ft Light brown fine-coarse SAND, some fine gravel, trace silt SS 12 13 3 Auger to 4ft 10 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 8 ENTERPRISE (dry) 7 S-3 SS 7 5 10 13 6 /LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 8 (moist) SS 11 S-4 20 25 14 Auger to 8ft 16 8 S-5 at 8ft Light brown silty fine-medium SAND, some f-c gravel, trace 12 weathered cobble fragments 24 SS S-5 (moist) 24 9 31 26 10 S-6 at 10ft Light brown silty fine-medium SAND, trace f-c gravel 35 (wet) SS 35 S-6 8 48 33 12 13 Auger to 15ft, moderate drilling, some light rig chatter 14 S-7 at 15ft SS Light brown silty fine-coarse SAND, trace f-c gravel 13 (wet) 24 15 S-7 16 23 17 Bottom of boring at Bottom of Boring 6/10/2020 Boring backfilled with auger 18 cuttings. 19

Log of Boring **B-S-BOR-09** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 162 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished SoilTesting, Inc. 6/29/20 6/29/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 15.5 ft 15.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 162. 10 20 30 40 Started Drilling at 6/29/2020 3" Dark brown fine-medium SAND, trace silt, trace roots -161. S-1 at 0ft (moist) [TOPSOIL] 5 12 Light brown fine-coarse SAND, trace silt, trace fine gravel 6 5 S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 16 3 Auger to 4ft. Light rig chatter 5 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 16 (dry) 10 S-3 SS 17 5 11 21 156.0 6 S-4 at 6ft Grayish brown fine-coarse SAND, some silt, some fine 20 gravel 22 SS (moist) [TILL] S-4 20 Auger to 8ft. Light rig chatter 30 32 8 S-5 at 8ft Grayish brown fine-coarse SAND, some silt, some fine 18 gravel 13 S-5 SS (moist)[TILL] 16 9 11 17 S-6 at 10ft Grayish brown fine-coarse SAND, some silt, some fine 18 gravel SS 14 S-6 (moist)[TILL] 8 13 14 12 Auger to 15ft. Moderate rig 13 14 \\LANGAN.COM\DATA\BOS\DATA1\151010101\P Grayish brown fine-coarse SAND, some silt, some fine gravel(moist)[TILL] S-7 at 15ft S-7 SS 3 100/5 Inferred Top of Bedrock 146. 100/5 Bottom of boring at 6/29/2020 16 Boring backfilled with auger Bottom of Boring cuttings 17 18 19

B-S-BOR-10 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 152.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/29/20 6/29/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 152 10 20 30 40 0 Started Drilling at 6/29/2020 5" Dark brown fine-medium SAND, trace silt, trace roots SS 2 152. S-1 at 0ft (moist) [TOPSOIL] 2 15 Light brown fine SAND, trace silt 2 (dry) 3 USE.GPJ SS S-2 at 2ft Light brown fine SAND, trace silt, trace roots 2 3 24 3 Auger to 4ft. Easy drilling 5 S-3 at 4ft Light brown fine SAND, trace silt SS ENTERPRISE (dry) 5 S-3 13 5 5 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine SAND, trace silt 6 (dry) SS S-4 7 Auger to 8ft. Easy drilling 8 S-5 at 8ft Light brown fine SAND, trace silt 6 (dry) SS S-5 16 9 15 18 S-6 at 10ft Brown fine-medium SAND, some silt 11 (moist) 12 S-6 24 14 17 12 Auger to 15ft. Light rig \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Brown fine-medium SAND, some silt, trace fine gravel 8 (moist) 21 S-7 4 16 23 20 17 Bottom of boring at Bottom of Boring 6/29/2020 Boring backfilled with auger 18 cuttings Bottom of Boring 19



B-S-BOR-11 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 162 (NGVD29) Date Started **Drilling Company** Date Finished 6/29/20 6/29/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Mobile Drill 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Mike Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Reid Balkind Sample Data /22/2020 5:24:02 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Number (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 162. 10 20 30 40 0 Started Drilling at 6/29/2020 2" Dark brown fine-medium SAND, trace silt, trace roots 161. 5 S-1 at 0ft (dry) [TOPSOIL] Light brown fine SAND, some f-c gravel, some silt SS ω 10 (dry) 2 SS S-2 at 2ft Brown fine SAND, some silt, trace fine gravel S-2 4 3 8 -158.0 S-3 at 4ft. Auger to 4ft Brown fine-coarse SAND, trace silt, trace f-c gravel 10 ENTERPRISE (moist) 12 S-3 SS 16 5 11 10 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 12 (moist) SS S-4 16 9 8 S-5 at 8ft. Auger to 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 8 (moist) 10 SS S-5 12 9 5 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 6 (moist) 6 S-6 15 7 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft. Auger to 15ft SS Brown fine-coarse SAND, trace silt (moist) 6 S-7 4 16 6 17 Bottom of boring at Bottom of Boring 6/29/2020 Boring backfilled with soil to 18 grade 19

Log of Boring **B-S-BOR-12** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 153.5 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 6/11/20 6/11/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A N/E N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Taylor Sisti Sample Data /22/2020 5:24:05 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 153 10 20 30 40 Started Drilling at 6/11/2020 5" Orangish brown fine-medium SAND, some silt, trace SS 153 S-1 at 0ft (moist) [TOPSOIL] 13 Orangish brown fine-medium SAND, trace silt, trace roots USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel (moist) 2 S-2 BORINGS 3 6 2 Auger to 4ft S-3 at 4ft Light brown fine-medium SAND, some silt, trace fine gravel SS 4 ENTERPRISE (moist) 3 S-3 10 5 5 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 (moist) SS S-4 16 13 8 Auger to 8ft 8 S-5 at 8ft Light brown fine SAND, trace silt 3 (moist) SS S-5 15 9 5 6 S-6 at 10ft Light brown fine SAND, trace silt 5 (moist) SS 5 S-6 2 5 7 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, easy drilling 14 S-7 at 15ft SS Light brown fine-medium SAND, trace silt 5 (moist) 5 16 S-7 7 136.5 17 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with auger 18 cuttings. 19

B-S-BOR-13 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 163 (NGVD29) Drilling Company Date Started Date Finished 6/11/20 6/11/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E V N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data /22/2020 5:24:08 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 163. 10 20 30 40 0 Started Drilling at 6/11/2020 3" Brown fine-medium SAND, trace silt SS 162. S-1 at 0ft (dry) [TOPSOIL] 5 17 6 USE.GPJ SS S-2 at 2ft Brown fine-medium SAND, trace silt 6 (dry) 6 13 BORINGS 3 6 Auger to 4ft, easy augering Brown fine-medium SAND, trace silt SS 5 ENTERPRISE S-3 at 4ft (dry) 5 S-3 16 5 6 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 8 SS (dry) S-4 16 8 SS Auger to 8ft, easy augering Brown fine-medium SAND, trace silt S-5 at 8ft (dry) S-5 4 9 7 10 S-6 at 10ft Brown fine SAND, trace silt 9 SS (dry) 8 S-6 15 7 12 Auger to 15ft, easy augering \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 148.0 S-7 at 15ft Brown silty fine SAND SS 6 (moist) 8 S-7 19 16 10 9 17 Bottom of boring at Bottom of Boring 6/11/2020 Boring backfilled with auger 18 cuttings. 19

LA	NEAN Log	of Boring B-S-BOR-14 Sheet	1 of 1
Project		Project No.	
Location	Hudson Logistics Center	151010101 Elevation and Datum	
D :111: 0	59 Steele Road, Hudson NH	Elev. + 145 (NGVD29)	
Drilling Comp	any Seaboard Drilling, Inc	Date Started Date Finished 6/2/20	6/2/20
Drilling Equip	ment	Completion Depth Rock Depth	
Size and Typ	Diedrich D50 e of Bit	17 ft Undisturbed Undisturbed	N/E Core
Casing Diame	4in Hollow Stem Auger	Number of Samples 7	24 HR.
Ž	NI/A	Water Level (ft.)	/A
Casing Hamr	N/A Weight (lbs) N/A Drop (in) N/A	Drilling Foreman Doug Feely	
Sampler	2-inch-diameter split spoon mer	Field Engineer	
Sampler Ham	Automatic Weight (195) 140 Drop (111) 30	Taylor Sisti Sample Data	
MATERIAL SYMBOL (tt)	Sample Description	Denth n S S S S S N-Value	Remarks Fluid, Depth of Casing, Drilling Resistance, etc.)
145.	Dark brown fine-coarse SAND, some f-c gravel, trace silt		Drilling Resistance, etc.) Drilling at 6/2/2020
144.	(dry) [FILL]	12 Started S-1 at 0	
144.	Light brown fine-medium SAND, trace silt (dry)	Started S-1 at 0 1	
	Light brown fine SAND, trace silt	2 - S-1B 9 S-2 at 2	ft
3	(moist)	2 - 8 S S S S S S S S S S S S S S S S S S	
		3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	. ∕Ift
	Light brown fine SAND, trace silt	4 - 6 S-3 at 4	ft
	(moist)	Auto ha	mmer broke, switch y hammer
		5 - 3 8 4 9 1 10 Salety	,
	Light brown fine SAND, trace silt	6 - 4 S-4 at 6	ft
	(moist)	S-4 at 6	
		Auger to	n 8ff
	Light brown fine SAND, trace silt	8 - 6 S-5 at 8	
	(moist)	S-5 at 8	
		Auger to	o 10ft
	Light brown fine SAND, trace silt	F	
	(moist)	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
3		12 =	
		- 13 -	
<u> </u>			
		Auger to	o 15ft, easy drilling
	Light brown fine medium SAND trace silt trace fine seem	se = 15 = 15 S-7 at 1	5ft
	Light brown fine-medium SAND, trace silt, trace fine-coars	Se - 1	
	(moist)	Se 15 4 8 S-7 at 1	
128.		17 = 4 Bottom	of boring at 6/2/2020
	Bottom of Boring	E Boring b	packfilled with auger
		- 18 - cuttings	
		[- 19 -]	
		20	

Log of Boring **B-S-BOR-15** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 116.5 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 6 6.4 N/A 14 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 **Brad Perry** Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 116. 10 20 30 40 0 Started Drilling at 6/9/2020 4" Brown fine-medium SAND, trace silt, some roots SS -116. 2 S-1 at 0ft (dry) [TOPSOIL] 4 Light brown fine-medium SAND, some fine gravel 4 5 (dry) 5 GPJ S-2 at 2ft Light brown fine SAND, trace silt 9 12 BORINGS 20 3 17 17 4 Drive casing to 4ft Light brown fine SAND, trace silt 8 ENTERPRISE S-3 at 4ft (dry) 14 S-3 SS 9 5 36 22 19 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown gravelly fine-coarse SAND, trace silt 22 Decomposed rock in tip of (wet) 20 SS S-4 spoon 16 7 25 24 8 Drive casing to 8.0ft Brown fine-coarse SAND, some fine gravel 10 S-5 at 8ft (wet) 12 SS S-5 9 ω 25 13 17 10 S-6 at 10ft Brown fine-coarse SAND, some fine gravel 11 (wet) SS 13 8 Light brown fine-medium SAND, trace silt 16 (wet) 21 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Drive casing to 14.0ft Grayish brown gravelly fine-coarse SAND, trace silt S-7 at 14ft (wet) 18 SS S-7 2 15 36 18 17 100. 16 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with soil cuttings 17 18 19

	YU/	1/V		Log				B-S	-BO	R-16	3		Sheet 1	of	1
Project	Lludoon Logistics Co	ontor			Proje	ct No.		1	15101	10101					
Location	Hudson Logistics Ce	enter			Eleva	ition a	nd Da		1510	10101					
Drilling Come	59 Steele Road, Hu	dson NH			Data	Starte	لم	E	Elev.	+ 110	(NG		9) Finished		
Drilling Comp	Atlantic Testing Lab	oraties			Date	Starte	u		6/	9/20		Date	rinished	6/9/20	
Drilling Equip					Com	oletion	Dept	th		-,		Rock	Depth		
Size and Typ	CME75 Track Rig e of Bit							1	Distur	13 ft bed		Ur	ndisturbed	N/E Core	
,	3-7/8in Tricone Rolle	er Bit		asing Depth (ft)	Numl	per of	Samp	oles			5		- ompletion	24 HR.	-
Casing Diam Casing Hamr Casing Hamr Sampler Sampler Han	4in	1		. 8		r Leve			First <u>∑</u>		N/E		▼ N/A	<u>₹</u>	N/A
Casing Hamr	^{ner} Automatic	Weight (lbs)	140	Drop (in) 30	Drillir	ng Fore	eman		ad Pe	arrı/					
Sampler	2-inch-diameter split			Dran (in)	Field	Engin	eer	סום	au i e	211 y					
	nmer Automatic	Weight (lbs)	140	Drop (in) 30	<u> </u>			Oli		hasse					
MATERIAL LOS ON STATE OF THE PROPERTY OF THE P		Sample Descr	iption			Depth Scale	Number	Type		resist al	N-Va (Blow	s/ft)	Re (Drilling Fluid, Fluid Loss, Drilli	marks Depth of Ca ng Resistanc	sing, e, etc.)
109.	8 4" Dark brown fine	e-medium SAND,	, trace si	t, some roots	7	0 -	S-1A		3	3			Started Drill S-1 at 0ft	ing at 6/9/	/2020
	\(\langle (dry) [TOPSOIL] Light brown fine-m	nedium SAND, tra	ace silt, t	race fine gravel	√ E	1 -			50	5 1	13•		0-1 at oit		
2	(dry)				Ė		S-1B			13	$ \cdot $				
106.	Light brown fine-co	oarse SAND, trad	ce silt, tra	ace fine gravel	E	2 -			1	12			S-2 at 2ft		
2	(dry)				E	3 -	S-2	SS	4	10 13	23				
106.					Ė				'	14					
	Brown silty fine SA decomposed rock	AND, some fine g	ravel, tra	ace	Ŧ	4 -			1	12	\		Drive casing S-3 at 4ft	to 4.0ft	
<u> </u>	(moist)				E	5 -	S-3	SS	2	18	32		0 0 41 411		
= 104. 104.					Ė		1		'	32		$ \ \ $			
THOUSE THE PROPERTY OF THE PRO	Grayish brown gra	avelly coarse-med	dium SA	ND, some fine	Ŧ	6 -			5	50			S-4 at 6ft		
	gravel (moist)				E	7 -	S-4		ω	37		63	3+		
					E				2	26 16					
	Gray fine GRAVE	L			F	8 -	S-5	SS	1 5	50/2		50/2	Drive casing S-5 at 8ft	to 8.0ft	
	(moist)				E	9 -							3-3 at oit		
)					E		}								
					F	10 -									
DISCIPLINE					E	11 -									
					E		}								
					F	12 -									
					Ē	13 -	1								
	Ι /	edrock Y		γ	$ \mathbb{E}$		}						Roller bit to	13.5ft, gri	inding
Ž	Bottom of Boring	'		1	F	14 -							on rock sind Bottom of b		/9/2020
0.00					Ė	15 -							Boring back cuttings.	filled with	soil
OLGIN					Ė								Jamings.		
TA I					F	16 -									
					E	17 -									
A I A I					Ė	:									
					E	18 -									
HANGAN COMIDA I ARGOSTIA I TOTAL PARA 1990 1010 11 PAGA 1990 1010 1010 1010 1010 1010 1010 101					E	19 -									
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Log of Boring **B-S-BOR-17** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 118.5 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/2/20 6/2/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 17 N/A Drop (in) N/A Casing Hammer N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 118 10 20 30 40 Started Drilling at 6/2/2020 Light brown fine-coarse SAND, trace silt, trace fine gravel, 5 S-1 at 0ft trace asphalt fragments SS 18 (moist)[FILL] <u>۲</u> 13 14 11 2 S-2 at 2ft SS Light brown fine-coarse SAND, trace silt, trace fine gravel 12 17 3 Light brown fine-coarse SAND, trace silt, trace fine gravel 26 Auger to 4ft 27 S-3 at 4ft Light brown fine-coarse SAND, trace silt 6 ENTERPRISE (moist) 8 S-3 SS 4 5 10 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 11 (moist) SS S-4 16 11 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel (moist) SS S-5 15 9 Auger to 10ft 9 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 2 (moist) SS 6 S-6 16 8 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 Auger to 15ft, easy drilling S-7 at 15ft SS Light brown fine SAND, trace silt 10 (moist) Spoon tip wet 13 S-7 16 25 12 15 17 Bottom of boring at 6/2/2020 Boring backfilled with auger Bottom of Boring cuttings. 18 19



Log of Boring B-S-BOR-17A(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 148 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished 6/15/20 6/15/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 32 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) First Completion 24 HR. Water Level (ft.) N/A N/A 30 29.9 Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Sam DeAngelis Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Justin Hall Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 148. 10 20 30 40 Started Drilling at 6/15/2020 Dark brown to black fine-coarse SAND, some silt, trace 2 S-1 at 0ft organics, trace leaves and brush SS (moist) [FILL] <u>۲</u> 10 Justin Hall 3 S-2 at 2ft Dark brown to black fine-coarse SAND, some silt, trace SS organics, trace leaves and brush 5 (moist) [FILL] S-2 3 ω 3 Auger to 4ft 3 S-3 at 4ft Dark brown to black fine-coarse SAND, some silt, trace SS 4 organics, trace leaves and brush S-3 (moist) [FILL] 9 5 6 S-4 at 6ft Dark brown to black fine-coarse SAND, some silt, trace 2 SS organics, trace leaves, brush and roots 2 (moist) [FILL] S-4 4 2 2 8 9 Auger to 10ft SS S-5 at 10ft Dark brown to black fine-coarse SAND, some silt, trace fine 10 gravel, trace organics 25 (moist) [FILL] 24 46 Dark brown to black fine-medium SAND, trace silt, trace 48 136.0 12 organics, trace wood, leaves S-6 at 12ft (moist) [FILL] ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA 13 Auger to 14ft, easy drilling S-7 at 14ft Light brown fine-coarse SAND, trace silt, trace fine gravel (moist) SS 14 S-6 4 14 15 16 S-8 at 16ft Light brown fine-medium SAND, trace silt 10 (moist) SS 13 S-7 18 19 18 Light brown fine-medium SAND, trace silt (moist) S-8 15 19

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MATERIAL SYMBOL	Elev. (ft) -128.0	Sample Description	Depti Scale	Number	Туре		Penetr. resist BL/6in	N (B	I-Value Blows/ft) 20 30 40	(Drilling Fluid Los	Rema g Fluid, Dep s, Drilling R	r ks th of Casing esistance, e	g, etc.)
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B-S-BOR-18 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 127 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT N/E 17 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 15 N/A Drop (in) N/A Casing Hammer N/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 127. 10 20 30 40 Started Drilling on 6/26/2020 4" Brown fine-medium SAND, trace silt, trace fine gravel, 126. 2 S-1 at 0ft SS 6 (dry) [TOPSOIL] <u>۲</u> 17 Light brown fine SAND, trace silt (dry) 24 2 SS S-2 at 2ft 22 16 BORINGS 12 3 14 13 Auger to 4ft, easy drilling. Light brown fine-medium SAND, trace silt SS 2 ENTERPRISE S-3 at 4ft (dry) S-3 15 5 5 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 8 SS (dry) 6 S-4 7 8 8 Auger to 8ft, easy drilling S-5 Light brown fine-medium SAND, trace silt, trace fine gravel (dry) SS S-5 4 9 6 5 10 S-6 at 10ft Light brown fine SAND, some silt 6 SS (dry) 6 S-6 19 8 6 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, easy drilling. SS Light brown fine SAND, some silt 5 S-7 at 15ft (wet) 5 S-7 17 16 17 Bottom of Boring Bottom of boring on 6/26/2020 Boring backfilled with auger 18 cuttings 19

B-S-BOR-19 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 16 ft 16 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A N/E N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data /22/2020 5:24:26 PM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 142. 10 20 30 40 Started Drilling at 6/26/2020 8" Dark brown fine-medium SAND, trace silt, trace fine 2 gravel, trace roots (dry) [TOPSOIL] Light brown fine-coarse SAND, trace silt S-1 at 0ft 4 17 5 (dry) USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, some silt, trace f-c gravel 5 8 BORINGS 3 Auger to 4ft Brown fine-coarse SAND, some f-c gravel, trace silt 4 ENTERPRISE S-3 at 4ft (dry) 8 S-3 SS 9 5 14 11 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, some f-c gravel, trace silt 12 (dry) SS 13 S-4 23 10 8 Auger to 8ft Brown fine-coarse SAND, trace silt, trace coarse gravel 5 S-5 at 8ft (dry) 8 SS S-5 9 9 8 S-6 at 10ft Gray coarse GRAVEL 11 (dry) SS 8 S-6 α 9 12 12 DATA\ 13 128. (LANGAN.COM/DATA/BOS/DATA1/151010101/PRO. Brown fine-coarse SAND, some silt, trace f-c gravel, trace weathered gravel (moist)[TILL] Auger to 15ft, Hard drilling, S-7 22 SS 6 Light chatter Inferred Top of Bedrock 126.3 50/3 S-7 at 15ft 16 Spoon and Auger refusal at Bottom of Boring 17 Bottom of boring at 6/26/2020 Boring backfilled with auger 18 cuttings 19



B-S-BOR-20 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135.5 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 15 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 135. 10 20 30 40 Started Drilling at 6/26/2020 3" Dark brown fine-medium SAND, trace silt, trace roots SS 135.2 S-1 at 0ft (dry) [TOPSOIL] 6 Brown fine SAND, some silt 4 (moist) 6 USE.GPJ 2 SS S-2 at 2ft Brown fine SAND, some silt, trace fine gravel BORINGS 4 3 5 Auger to 4ft Brown fine-medium SAND, some silt, trace fine gravel SS 3 ENTERPRISE S-3 at 4ft (moist) 5 S-3 17 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt, trace fine gravel 6 (moist) SS 10 S-4 10 8 Auger to 8ft Brown fine-medium SAND, some silt 8 S-5 at 8ft (moist) 8 SS S-5 9 2 9 11 S-6 at 10ft Brown fine-medium SAND, some silt 10 (moist) SS 9 S-6 16 9 9 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 120.5 Auger to 15ft, Easy drilling SS Brown sandy SILT 5 S-7 at 15ft (wet) 6 9 S-7 16 6 17 Bottom of boring at Bottom of Boring 6/26/2020 Boring backfilled with auger 18 cuttings 19



Log of Boring **B-S-BOR-21** Sheet 2 of Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 111 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 12 N/A Casing HammerN/A Drop (in) N/A Weight (lbs) Drilling Foreman N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Automatic Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 111. 10 20 30 40 Started Drilling at 6/9/2020 10" Orangish brown fine-medium SAND, some silt, trace 2 S-1 at 0ft 110.1 3 (moist) [TOPSOIL] 22 5 Orangish brown silty fine-medium SAND, trace fine gravel 11 SS S-2 at 2ft Orangish brown silty fine-medium SAND 15 16 22 3 Orangish tan fine SAND, some silt 15 Auger to 4ft 14 S-3 at 4ft Orangish tan silty fine SAND, mottled 4 ENTERPRISE (moist) 6 S-3 SS 19 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Orangish brown silty fine SAND SS (moist) S-4 17 6 Auger to 8ft 8 S-5 at 8ft Orangish brown to tan fine SAND, some silt 5 (moist) SS S-5 24 9 9 8 S-6 at 10ft, spoon tip wet Orangish tan fine SAND, some silt 8 (moist) SS 8 S-6 21 10 9 12 ANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling 14 S-7 at 15ft SS Orangish brown silty fine SAND (wet) 5 9 S-7 6 17 18 Auger to 20ft, easy drilling 19



Log of Boring **B-S-BOR-21** Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 111 (NGVD29) Sample Data Remarks Elev Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 10 20 30 40 +91.0 20 S-8 at 20ft Orangish brown silty fine SAND SS (wet) NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:24:32 PM ... Report: Log - LANGAN 24 21 9 +89.3 10 +89.0 Orangish brown fine-coarse SAND, trace silt, trace coarse 22 Bottom of boring at 6/9/2020 gravel Boring backfilled with auger (wet) cuttings. 23 Bottom of Boring 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

Log of Boring B-S-BOR-22 Sheet of 1 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum Elev. + 110 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc. 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A N/E N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 110. 10 20 30 40 Started Drilling at 6/9/2020 5" Dark brown fine-medium SAND, trace silt, some roots 2 109. S-1 at 0ft (dry) [TOPSOIL] SS 2 Brown fine-coarse SAND, trace silt, trace fine gravel 8 3 (moist) [FILL] 3 Brown medium-coarse SAND, trace silt, trace fine gravel SS S-2 at 2ft (moist) [FILL] 9 3 Auger to 4ft 6 S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel 2 1 inch silty fine sand seam (moist) [FILL] 3 S-3 SS 5 6 3 3 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 Brown fine-coarse SAND, trace silt, trace fine gravel 3 103. (moist) [FILL] 103.0 2" Brown to orangish fine-medium SAND, trace silt, some SS 11 Auger to 8ft (dry) [BURIED TOPSOIL] 12 8 S-5 at 8ft Brown to orangish fine SAND, trace silt 17 19 Brown to orangish fine-coarse SAND, some f-c gravel, S-5 SS 12 9 trace silt 35 (dry) 30 10 S-6 at 10ft Brown to orangish brown fine-coarse SAND, some f-c 24 gravel, trace silt SS 31 S-6 (moist) 16 22 22 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, some light-medium rig chatter, hard drilling at 13.5ft 14 S-7 at 15ft Brown to orangish brown fine-coarse SAND, some f-c SS 10 gravel, trace silt 9 (moist) S-7 16 6 10 10 +93.0 17 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with auger cuttings. 18 19

B-S-BOR-23 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 110 (NGVD29) Drilling Company Date Started Date Finished Atlantic Testing Laboraties 6/10/20 6/10/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 19 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 8 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) V N/A N/A 15 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Number (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 110. 10 20 30 40 Started Drilling at 6/10/2020 12" Brown fine-medium SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] SS 13 <u>۲</u> 2 14 10 -108.0 2 S-2 at 2ft Brown fine SAND, trace silt, trace fine gravel SS 12 5 S-2 4 3 Auger to 4 ft 3 S-3 at 4ft Brown fine SAND, trace silt SS 2 ENTERPRISE (dry) S-3 17 5 2 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft SS Brown fine SAND, trace silt 2 (dry) 2 S-4 Auger to 8 ft 2 8 SS S-5 at 8ft Brown fine SAND, trace silt 13 (dry) 26 S-5 9 20 15 10 S-6 at 10ft Light brown fine-medium SAND, trace silt 11 (dry) 10 S-6 24 8 8 12 Auger to 15 ft (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 S-7 at 15ft SS Light brown fine-coarse SAND, trace silt (wet) 6 S-7 4 16 17 Light brown fine-medium SAND, trace silt S-8 at 17ft 6 (wet) SS 18 18 Bottom of boring at 6 +91.0 19 6/10/2020 Bottom of Boring Boring backfilled with auger



B-S-BOR-24 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 113 (NGVD29) Date Started **Drilling Company** Date Finished 6/10/20 6/10/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 22 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 21 N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A John Knepple Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 113. 10 20 30 40 Started Drilling at 6/10/2020 6" Brown fine-medium SAND, trace silt 3 112. S-1 at 0ft (dry) [TOPSOIL] SS 10 <u>۲</u> 17 12 14 S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel 18 (dry) [FILL] SS 28 19 3 25 22 Auger to 4ft, Easy Augering Brown fine-medium SAND, trace silt, trace roots SS 9 S-3 at 4ft (moist) [FILL] S-3 က 5 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt, trace fine gravel, 3 SS trace roots (moist) [FILL] S-4 3 8 Auger to 8ft, Easy Augering Brown fine-medium SAND, trace wood, trace silt, trace 5 S-5 at 8ft organics (moist) [FILL] S-5 SS 24 9 13 14 103.0 S-6 at 10ft Brown fine-medium SAND, trace fine gravel, trace silt 14 (moist) 10 S-6 8 12 Auger to 15ft, Easy Augering ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-medium SAND, trace silt (moist) 15 S-7 10 14 17 Auger to 20ft, Easy Augering 18 19



NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 5:24:40 PM ... Report: Log - LANGAN

Log of Boring B-S-BOR-24 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 113 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) +93.0 10 20 30 40 20 S-8 at 20ft Brown fine-medium SAND, trace silt SS (wet) 6 S-8 16 21 6 11 +91.0 22 Bottom of boring at Bottom of Boring 6/10/2020 Boring backfilled with auger 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

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Log of Boring **B-S-BOR-25** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 118.5 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E V N/A N/A N/A Drop (in) N/A Casing HammerN/A Drilling Foreman Weight (lbs) N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Number Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 118. 10 20 30 40 Started Drilling on 6/26/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 3 118. S-1 at 0ft (dry) [TOPSOIL] 10 Light brown fine-coarse SAND, some fine gravel, trace silt 4 13 (dry) 13 USE.GPJ 2 SS S-2 at 2ft Light brown fine-coarse SAND, some fine gravel, trace silt 11 13 BORINGS 3 19 11 Auger to 4ft, easy to Light brown fine-coarse SAND, some fine gravel, trace silt SS 4 ENTERPRISE moderate drilling. S-3 at 4ft (dry) 6 S-3 12 5 9 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, some fine gravel, trace silt 22 (dry) SS 13 S-4 8 18 16 8 S-5 at 8ft. Auger to 8ft, easy Light brown fine-coarse SAND, some fine gravel, trace silt 10 to moderate drilling (dry) 13 SS S-5 10 9 11 16 S-6 at 10ft Light brown fine-coarse SAND, some fine gravel, trace silt SS (dry) 14 S-6 19 16 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, easy to SS Light brown fine SAND, trace silt 9 moderate drilling (dry) 8 Gravel in auger cuttings at S-7 16 16 13 S-7 at 15ft 11 17 Bottom of boring on Bottom of Boring 6/26/2020 Boring backfilled with auger 18 cuttings. 19



Log of Boring B-S-BOR-26 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 123.5 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 16 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) V 4in N/E N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 140 Scott Mcgregor Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Jack Berritt Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 123. 10 20 30 40 0 Started Drilling at 6/26/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 123. S-1 at 0ft (moist) [TOPSOIL] SS 3 Light brown fine-coarse SAND, trace silt, trace fine gravel 12 15 USE.GPJ 2 SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 31 38 S-2 8 BORINGS 3 Drive casing to 4.0ft, Light rig 33 chatter 34 Drill to 4.0ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-3 at 4ft 23 ENTERPRISE (dry) 19 S-3 SS 9 5 35 16 15 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS (dry) 12 S-4 29 Drill to 8.0ft. Light rig chatter 17 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel 9 (dry) 12 SS S-5 9 6 12 15 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 11 (dry) SS 12 S-6 10 14 19 12 Drill to 14.0ft. Light rig chatter \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 S-7 at 14ft Light brown fine-coarse SAND, trace silt, trace fine gravel 18 (dry) SS S-7 15 14 13 107. 16 Bottom of boring at Bottom of Boring 6/26/2020 Boring backfilled with soil 17 cuttings. 18 19

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Log of Boring **B-S-BOR-27** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 145.5 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 13 ft 13 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E V N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 145. 10 20 30 40 Started Drilling at 6/26/2020 3" Dark brown fine-medium SAND, trace silt, trace fine 145.2 S-1 at 0ft gravel, trace roots (dry) [TOPSOIL] SS 5 Light tannish brown fine-coarse SAND, trace silt, trace f-c 16 gravel (dry) 9 2 SS S-2 at 2ft Light tannish brown fine-coarse SAND, trace silt, trace f-c gravel (dry) S-2 15 3 Brown fine-coarse SAND, trace silt, trace fine gravel 4 Auger to 4ft 3 S-3 at 4ft Light brown sandy SILT 8 5 13 (moist) Light brown sandy SILT 5 6 (moist) S-4 at 6ft 9 Brown fine SAND, some silt DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010 (moist) 4 7 SS 8 Auger to 8ft Brown fine SAND, some silt S-5 at 8ft (moist) SS S-5 17 9 5 7 10 S-6 at 10ft Brown fine SAND, some silt (moist) 8 SS S-6 15 10 8 12 No Recovery \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ Inferred Top of Bedrock -132. 13 Auger to 13ft. S-7 SS 0 50/1 S-7 at 13ft Auger and spoon refusal at 14 Bottom of Boring Bottom of boring at 6/26/2020 15 Boring backfilled with auger cuttings 16 17 18 19

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Log of Boring **B-S-BOR-28** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 119 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 17 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) V N/A N/A 16 N/A Drop (in) N/A Casing HammerN/A Weight (lbs) Drilling Foreman N/A Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Olivia Chasse Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 119. 10 20 30 40 Started Drilling on 4" Light brown fine-medium SAND, trace silt, trace fine 118. 2 6/26/2020. S-1 at 0ft gravel, some roots 4 (dry) [TOPSOIL] SS 6 3 Brown fine to medium SAND, trace silt 2 SS S-2 at 2ft Dark brown fine-medium SAND, some silt, some organics, 2 USE. trace historic roots 3 (moist) S-2 3 2 3 2 S-3 at 4ft. Auger to 4ft, easy Dark brown fine-medium SAND, some silt, trace organics, 2 ENTERPRISE drillina trace historic roots 3 SS (moist) 5 4 35 Light brown fine-medium SAND, some fine gravel, trace silt 30 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, some fine gravel, trace silt 37 SS (dry) 27 S-4 13 7 26 26 8 S-5 at 8ft. Auger to 8ft, easy Light brown fine-coarse SAND, some fine gravel, trace silt 15 to moderate drilling (dry) 11 SS S-5 13 9 10 10 Auger to 10ft, easy drilling. Light brown fine-coarse SAND, some fine gravel, trace silt 10 S-6 at 10ft (dry) SS 11 S-6 ω 13 16 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 15 Auger to 15ft, easy drilling. Light brown fine SAND, some silt 5 S-7 at 15ft 5 4 16 Brown fine-coarse SAND, some silt, some fine gravel 10 Bottom of Boring Bottom of boring on 6/26/2020 Boring backfilled with auger 18 cuttings 19



Log of Boring **B-S-BOR-29** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 126 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/26/20 6/26/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 N/E 17 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/E N/A N/A N/A Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Elev Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 126. 10 20 30 40 Started Drilling at 6/26/2020 12" Dark brown fine-medium SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] 3 125.0 20 Light brown fine-medium SAND, trace silt, trace fine gravel 6 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel 5 5 12 3 5 5 4 Auger to 4ft Light brown fine SAND, some silt SS 10 ENTERPRISE S-3 at 4ft (dry) 10 S-3 12 5 8 9 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine SAND, some silt, trace fine gravel SS (dry) S-4 16 8 Auger to 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-5 at 8ft (dry) SS S-5 16 9 5 5 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 5 (dry) 7 S-6 6 8 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, Hard drilling SS Light brown to gray gravelly fine-coarse SAND, trace silt 13 (dry) from 13ft 23 S-7 at 15ft S-7 3 16 32 42 109.0 17 Bottom of boring at Bottom of Boring 6/26/2020 Boring backfilled with auger 18 cuttings. 19



Log of Boring B-S-BOR-30(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 115 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 29 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4in Hollow Stem Auger 9 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) N/A N/A 25 23 24.4 Casing Hammer N/A Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 115. 10 20 30 40 Started Drilling at 6/9/2020 11" Dark brown fine-medium SAND, some silt, some roots 3 S-1 at 0ft (moist) [TOPSOIL] 5 22 Light brown fine-coarse SAND, trace silt, trace f-c gravel S-2 at 2ft Light brown fine-medium SAND, trace silt SS 6 20 3 6 Auger to 4ft 6 S-3 at 4ft Light brown fine-coarse SAND, trace silt 4 ENTERPRISE 2 inch thick silty fine sand (moist) 3 S-3 seam 16 5 4 12 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 6 (moist) S-4 7 Auger to 8ft 10 8 SS SS S-5 at 8ft Light brown fine-coarse SAND, trace silt (moist) 17 9 S-6 at 10ft Light brown fine-coarse SAND, trace silt 4 SS (moist) 4 S-6 5 6 12 _ANGAN.COM/DATA\BOS\DATA1\151010101\PROJECT DATA\ 13 Auger to 15ft, easy drilling 14 S-7 at 15ft SS Light brown fine-coarse SAND, trace silt, trace fine gravel 5 S-7 4 6 17 18 Auger to 20ft, easy drilling 19



Log of Boring B-S-BOR-30(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 115 (NGVD29) Sample Data Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 +95.0 20 S-8 at 20ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS (moist) 12 21 8 21 22 23 Auger to 25ft, easy drilling 24 25 S-9 at 25ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS (wet) 2 26 NLANGAN.COMIDATA\BOS\DATA1/151010111PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 2 28 +86.0 29 Auger to 29ft Bottom of Boring Bottom of boring at 6/9/2020 Install observation well. 30 Refer to well construction 31 32 33 34 35 36 37 38 39 43

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Project Hudson Logistics Center			Project No. 151010101											
Location Logistics Center		Ele	vation a	nd Da		13101	0101							
59 Steele Road, Hudson NH Drilling Company				Elev. + 169 (NGVD29) Date Started Date Finished										
SoilTesting, Inc.			6/30/20						6/30/20					
Drilling Equipment			Completion Depth 10 ft						Rock Depth 10 ft					
Mobile Drill B53 Size and Type of Bit			Number of Samples Disturbed					_	Undisturbed Core					
4in Hollow Stem Auger Casing Diameter (in) Casing Depth (ft)				First				5	Completion 24 HR.			-		
N/A Casing Hamme N/A Weight (lbs) N/A Dr	N/A rop (in) N/A	1	Water Level (rt.) V N/E N/A N N/A N N/A N/A N/A N/A N/A N/A N/A						N/	Α				
Sampler 2-inch-diameter split spoon	IN/A	Mike Kennedy												
	rop (in) 30	Field Engineer Reid Balkind												
		Sample Data							Value Remarks					
Flev. (ft) Sample Description			Scale	Number	Туре	Recov. (in) Penetr.	resist BL/6ir	(Blow	s/ft)	(Drilling Fluid, Fluid Loss, Drilli				
168.7 4" Dark brown fine-medium SAND, trace silt, tra	ace roots	7	_ 0 _	S-1A				10 20 .	50 40	Started Drill S-1 at 0ft	ing at 6	5/30/20	J20	
\(dry) [TOPSOIL] Light brown fine-medium SAND, trace silt			- 1 -	=	SS	17	7 13	9		3-1 at 01t				
[:::::::::::::::::::::::::::::::::::::		ŧ		S-1B		6	5							
Light brown fine-medium SAND, trace silt (dry)		Ē	- 2 -			5				S-2 at 2ft				
		ŀ	- 3 -	S-2	SS	٤ 5	5 10	 						
		4 -		5										
Light brown fine SAND, some silt, trace fine gra	avel	ļ						Auger to 4ft S-3 at 4ft						
			- 5 -	S-3	SS	~ 7	12							
Z O O O O O O O O O O O O O O O O O O O	ı	ŀ	- - 6 -	1			12			S-4 at 6ft				
Light brown to gray fine-coarse SAND, trace silt, trace f-c gravel, trace weathered rock fragments			5 5 5 5 10 6 5 5 10 6 5 5 10 6 6 5 7 12 12 12 15 15 15 10 15 15 15 15 15 15 15 15 15 15 15 15 15											
(dry)			- 7 -	- γ	S	3.	4		67	†				
light brown fine SAND, trace silt, trace f-c gravi	el trace	-	- 8 -	1	-		0/3			Auger to 8ft				
weathered rock fragments (moist) [TILL]			- - 9 -	S-5		20	44		400	S-5 at 8ft				
Inferred Top of Bedrock			- 9 -	3	SS	5	6 0/3		100	Ī				
7			- 10 -	=			0/0			Bottom of b Spoon and				
			- 11 -]						encountered Boring back	d at 10f	t.		
Bottom of Boring		Ē								cuttings			5	
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APPENDIX D TEST PIT LOGS

LOG OF TEST PIT B-B-TP-02 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 9:22:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 153 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.2 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +153.0 6" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls mostly maintained. No (moist)[TOPSOIL] redox. Light brown fine SAND, trace silt, trace roots (moist) 1 2 3 Light brown fine SAND, trace silt (moist) 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Bottom of Test Pit at 7.2ft Bottom of Test Pit at 7.2ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to 8 excavation. 9

10

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7/20/2020 9:20:32 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-04 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 9:43:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 156 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +156.0 Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Brown fine-coarse SAND, some f-c gravel, trace silt 1 (dry) Roots to 1ft 2 3 4 Light brown fine-medium SAND, some f-c gravel, trace silt, trace cobbles (dry) 5 6 7 8 9 +147.0 Bottom of Test Pit at 9ft Bottom of Test Pit at 9ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 10

9:20:34 AM

ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ

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LOG OF TEST PIT B-B-TP-05 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 10:56:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 152.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft 7 ft 7 ft EQUIPMENT FOREMAN LANGAN PERSONNEL Olivia Chasse **CAT 305E** Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +152.5 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace roots (dry) 1 Roots to 1.5ft 2 3 Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Brown fine-coarse SAND, some f-c gravel, trace silt Groundwater encountered at 7ft. (wet) 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10 **LANGAN**

7/20/2020 9:20:36 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-07 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 10:02:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 145.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 6.3 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +145.5 6-7" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] Light brown to brown fine-medium SAND, trace silt, trace roots (moist) 1 Light brown fine-medium SAND, trace silt 2 (moist) 3 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 +139.2 Bottom of Test Pit at 6.3ft Bottom of Test Pit at 6.3ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. 7 Surface restored with grass removed prior to excavation. 8 9 10

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7/20/2020 9:20:37 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-08 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 8:20:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 144.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 6.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +144.5 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Brown fine-medium SAND, some f-m gravel, trace silt (dry)[FILL] 1 2 3 Dark brown fine-medium SAND, some silt, trace roots (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace f-m gravel Roots to 3.5ft ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101, ENTERPRISE TEST PITS.GPJ (dry) 4 5 6 +138.0 Bottom of Test Pit at 6.5ft Bottom of Test Pit at 6.5ft, no groundwater encountered. Test pit backfilled with 7 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10

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9:20:39

7/20/2020

LOG OF TEST PIT B-B-TP-10 Sheet of 1 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 9:55:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 143.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +143.5 Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +143.0 1 Roots to 1ft. 2 Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 3 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

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LOG OF TEST PIT B-B-TP-11

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 1:11:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 142.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion 6.8 ft Polster Industries N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +142.5 5" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] +142.1 Light brown fine-medium SAND, some silt, trace roots 1 Light brown fine-medium SAND, some silt, trace roots (moist) 2 3 Light brown fine-medium SAND, trace silt (moist) 4 5 6 Bottom of Test Pit at 6.8ft Bottom of Test Pit at 6.8ft, no groundwater 7 encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10 LANGAN

7/20/2020 9:20:42 AM

ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101, ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-12 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 11:07:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 2.8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale n +135.0 6-7" Light brown fine-medium SAND, some silt, some roots, Vertical sidewalls maintained. No redox. trace f-c gravel (dry)[TOPSOIL] Light brown fine-coarse SAND, some f-c gravel, trace silt, trace 1 +134.0 roots \ (dry) Light brown fine-coarse SAND, some f-c gravel, trace silt Light gray BEDROCK, slightly weathered surface 2 Black phone line wire encountered at 2ft (dry) deep during excavation, along north edge of ILANGAN.COMIDATAN1510101011PROJECT DATA) DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS.GPJ ... 7/20/2020 9:20:43 AM test pit. Fill inferred above to ground surface and about 1ft on either side of wire. Wire left Bottom of Test Pit at 2.8ft exposed for groundskeeper. Groundskeeper 3 confirmed line is not in use and was previously abandoned. Top of rock encountered between 1.5 and 2.8ft, rock dips toward north. Non-rippable rock with mini-excavator. 4 Bottom of Test Pit between 1.5 and 2.8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed 5 prior to excavation. 6 7 8 9 10 **LANGAN**

LOG OF TEST PIT B-B-TP-13

		LOG OF TEST	PIT	B-B	-TF	7-1 ;	Sheet 1	of 1
PROJECT				CT NUMBER	1	15101	DATE)O AM
Hudson Logistics Center LOCATION ELEVA			ELEVA [*]	TION	•			
59 EXCAVAT	Steele	e Road, Hudson, NH	DEPTH				Elev. + 146 (NG) WATER LEVEL - First WATER LEVEL	/D29)
Polster Industries				7 ft			N/E ▽ N/E	
EQUIPME CA	мі Т 305	E	FOREM	IAN	F	Pat Po	LANGAN PERSONNEL Olivia Cl	hasse
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type Type	REMARKS	
<u> </u>	+146.0	12" Brown fine-medium SAND, trace silt, trace silt, trace roo	nte	— 0 —	ž		Vertical sidewalls maintained. No re	
17 - <u>1</u> 4 - 1 ₇ - 1 ₄ 17 - 17 - 17 (5)	140.0	(dry)[TOPSOIL]	JIS				vertical sidewalls maintained. No re	:uox.
<u>/</u> <u>. v /</u> . <u>v</u>	+145.0	- I CAND 6 11 11		 - 1 -	 -		D 1 1 10	
		Light brown fine-medium SAND, some f-m gravel, trace silt (dry)		 			Roots to 1ft	
				 - 2 -				
	+143.0			 - 3 -				
		Light brown fine SAND, some fine gravel, trace silt (dry)						
				 - 4 -				
				 - 5 -				
				 - 6 -				
	+139.0	Bottom of Test Pit at 7ft		 - 7 -			Bottom of Test Pit at 7ft, no ground	 water
							encountered. Test pit backfilled with excavated soils in compacted lifts to	n o grade.
				8 - - 8 -			Surface restored with grass remove excavation.	a prior to
				 	_ _ _			
				- 9 - - 9 -				
				 	1			
				- 10 - - 10 -				
		FAN		— 11 —				

WEANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ ... 7/20/2020 9.20:44 AM ... Report. Log - LANGANTP

LOG OF TEST PIT B-B-TP-14 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 8:37:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 138 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Wanderley Docarno Takeuchi TB260 Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +138.0 6-7" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls mostly maintained. No (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace f-c gravel, trace roots 1 (dry) Light brown to brown fine-medium SAND, trace silt, trace f-c gravel (dry) 2 Light brown fine-coarse SAND, some f-c gravel, trace silt, and fine SAND, trace silt layers 3-10 inches thick, trace cobbles up to 6 inches 3 (dry) 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 +130.0 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

LANGAN

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-16 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 12:06:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 140 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1// 1/4 140.0 5-6" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] Orangish brown silty fine SAND, some roots (moist) 1 2 Light brown fine-medium SAND, trace silt (moist) 3 ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS.GPJ 4 5 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with 8 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

LANGAN

7/20/2020 9:20:47 AM

LOG OF TEST PIT B-B-TP-17 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/3/2020 12:08:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 125.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Jack Berritt SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +125.5 6" Brown fine-medium SAND, trace silt, trace fine gravel, trace Vertical sidewalls mostly maintained. No redox. (dry) [TOPSOIL] Light brown fine-medium SAND, trace silt, trace fine gravel 1 Brown fine SAND, trace silt (moist) 2 3 Brown fine-medium SAND, trace silt (moist) 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10

LANGAN

9:20:49 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-B-TP-18 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/3/2020 11:32:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 7 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.0 +134.8 3" Gray fine GRAVEL, some f-m sand, trace silt Test pit in gravel access road. Vertical sidewalls mostly maintained. No redox. (dry) [FILL] Light brown fine-medium SAND, some fine gravel, trace silt 1 2 Grayish brown fine-coarse GRAVEL, some f-c sand, trace silt 3 7/20/2020 Light brown fine-medium SAND, some f-m gravel, trace silt (dry) ENTERPRISE TEST PITS.GPJ 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10 LANGAN

LOG OF TEST PIT B-B-TP-19 Sheet of 1 PROJECT NAME <u>1510101</u>01 **Hudson Logistics Center** 6/29/2020 1:56:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 134 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +134.0 8" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, some f-m gravel, trace silt 1 (dry) 2 3 NLANGAN.COM/DATA\BOS\DATA1/15101011\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_TEST PITS.GPJ 4 Light brown fine-medium SAND, trace silt (dry) 5 6 7 8 9 +124.5 Bottom of Test Pit at 9.5ft Bottom of Test Pit at 9.5ft, no groundwater encountered. Test pit backfilled with 10 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation.

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7/20/2020 9:20:52 AM

LOG OF TEST PIT B-B-TP-20 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 8:43:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 136.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Pat Polster SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +136.5 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt (dry) 1 2 Light brown fine SAND, trace silt lenses (dry) 3 4 Roots to 4.5ft 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 +128.5 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

LANGAN

7/20/2020 9:20:54 AM

LOG OF TEST PIT B-R-TP-01 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/18/2020 7:32:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 143 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion N/E 6.5 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 x11/2 +143.0 5-7" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No Redox. (moist)[TOPSOIL] Light brown fine-coarse SAND, some silt, trace f-c gravel, trace roots, trace cobbles up to 4 inches 1 (moist) Light brown fine-coarse SAND, trace silt, trace f-c gravel, trace 2 roots, trace cobbles up to 6 inches (moist) 3 Light brown fine-coarse SAND, trace silt, trace f-c gravel, trace cobbles up to 3 inches (moist) 4 5 6 +136.5 Bottom of Test Pit at 6.5ft Bottom of Test Pit at 6.5ft, no groundwater encountered. Test pit backfilled with 7 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10

Report: Log - LANGANTP

7/20/2020 9:20:56 AM

ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ

LANGAN

LOG OF TEST PIT B-R-TP-04 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 9:30:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 148 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Wanderley Takeuchi TB260 Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +148.0 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls mostly maintained. No (dry)[TOPSOIL] Light brown fine SAND, trace silt, trace fine gravel (dry) 1 2 3 Roots to 3ft 4 Brown fine-medium SAND, some silt, some f-c gravel (dry) Light brown fine SAND, trace silt, trace fine gravel (dry) 5 6 7 Brown fine-medium SAND, some silt, some f-c gravel 8 Light brown fine SAND, trace silt, trace fine gravel (dry) 9 +138.5 Bottom of Test Pit at 9.5ft Bottom of Test Pit at 9.5ft, no groundwater encountered. Test pit backfilled with 10 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to

excavation.

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7/20/2020 9:20:57 AM

DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE

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LOG OF TEST PIT B-S-TP-01

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/18/2020 2:01:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 148.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Wanderley Docarno Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +148.5 5-7" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls mostly maintained. No (dry) [TOPSOIL] Light brown fine-medium SAND, some silt, trace roots (dry) 1 Light brown fine-medium SAND, trace silt, trace roots (dry) 2 3 Light brown fine-coarse SAND, trace silt, trace f-c gravel, trace cobbles up to 8 inches (dry) 5 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with 8 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10 LANGAN

7/20/2020 9:20:59 AM

/LANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA; DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101, ENTERPRISE, TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-02 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 2:13:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 165 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Olivia Chasse Wanderley SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +165.0 8" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace fine gravel 1 Roots to 1ft 2 3 4 5 Brown fine-coarse SAND, some f-c gravel, trace silt (dry) NLANGAN.COMIDATA\BOSIDATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 6 7 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

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7/20/2020 9:21:01 AM

LOG OF TEST PIT B-S-TP-04 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 11:43:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 162 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 8.2 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Taylor Sisti Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +162.0 5-6" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No Redox. (dry)[TOPSOIL] Orangish brown fine-coarse SAND, some silt, trace f-c gravel, trace roots 1 (dry) Light brown to orangish brown fine-coarse SAND, some f-c gravel, trace silt, trace cobbles up to 8 inches, and f-m SAND, trace silt layers 6-18 inches 2 (dry) 7/20/2020 9:21:03 AM 3 4 5 Grayish brown fine-medium SAND, some silt, trace f-c gravel, 6 trace cobbles up to 12 inches (moist)[TILL] 7 8 +153.8 Bottom of Test Pit at 8.2ft Bottom of Test Pit at 8.2ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to 9 excavation.

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51010101 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/

LOG OF TEST PIT B-S-TP-05 Sheet 1 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/18/2020 2:31:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 147 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 7 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +147.0 5" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (dry) [TOPSOIL] Light brown fine-coarse SAND, some f-c gravel, trace silt (dry) [FILL] 1 Dark brown fine-medium SAND, some silt, some roots (dry) [TOPSOIL] Orangish brown fine-medium SAND, some silt, trace roots 2 (dry) Light brown fine-medium SAND, some silt (dry) 3 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10

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LOG OF TEST PIT B-S-TP-08 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 10:42:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 162 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +162.0 6" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, some roots (dry) 1 2 3 Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 4 Roots to 4ft 5 NLANGAN.COMIDATA\BOSIDATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 Light brown fine-medium SAND, trace silt, trace f-c gravel (dry) 6 7 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

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7/20/2020 9:21:06 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-09 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 11:36:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 161 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +161.0 8" Brown fine-medium SAND, trace silt, some roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, some f-m gravel, trace silt 1 (dry)[FILL] 2 Dark brown fine-medium SAND, trace silt, trace roots (dry)[TOPSOIL] Brown fine-medium SAND, trace silt, trace roots (dry) 3 4 Light brown fine-coarse SAND, some fine gravel, trace silt Roots to 4ft (dry) 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 +153.0 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

LANGAN

7/20/2020 9:21:08

LOG OF TEST PIT B-S-TP-10

Sheet of 1 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 2:06:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 156 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/2 · 1/2 · 156.0 7" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] Orangish brown fine-medium SAND, some silt, trace roots (moist) 1 Light brown fine-medium SAND, trace silt, trace roots (moist) 2 3 Light brown fine-medium SAND, trace silt (moist) 4 5 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with 8 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10 **LANGAN**

9:21:09 AM

ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-11

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 12:29:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 153.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 24" Light brown fine-medium SAND, trace silt, some roots Leaf litter at surface. Vertical sidewalls maintained. No redox. (dry) 1 2 Light brown fine-medium SAND, some silt, some f-c gravel, trace boulders (dry) 3 Roots to 3ft 4 5 6 7 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with leaf litter removed prior to excavation. 9 10 LANGAN

ALANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA, DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101, ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-13 Sheet of 1 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 1:24:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 12" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] 1 Light brown fine-medium SAND, trace silt, trace roots (dry) 2 Roots to 2.5ft 3 4 +130.5 Brown fine-coarse SAND, trace silt, trace f-c gravel (dry) 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 +126.5 Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with 9 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 10

LANGAN

TEST PITS.GPJ

ENTERPRISE

LOG OF TEST PIT B-S-TP-14

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/3/2020 1:35:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 154.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 Light brown fine-medium SAND, trace silt, some roots Located adjacent to gravel maintenace path. Vertical sidewalls maintained. No redox. (moist) 1 Light brown fine-medium SAND, trace silt (moist) 2 3 4 5 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with 8 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10 LANGAN

(LANGAN.COM/DATA\BOS\DATA1/15101011)PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-15

Sheet 1 of PROJECT NAME <u>151</u>010101 **Hudson Logistics Center** 6/29/2020 9:40:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 113.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +113.5 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace f-c gravel, Roots to 0.5ft trace plastic and PVC pieces 1 (dry) [FILL] 2 Grayish brown silty fine SAND (dry) 3 Brown to grayish fine-medium SAND, some silt, some f-c (dry)[TILL] 4 5 6 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10 **LANGAN**

/\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTL

LOG OF TEST PIT B-S-TP-17 Sheet 1 of 1

PROJECT			PROJECT NUMBER DATE								
Hudson Logistics Center					1	15101	0101	6/29/2	020 10:46:00 AM		
LOCATIO	N Stoole	ELEVAT	ION				Elov. L	100 E (NC)/D20)			
EXCAVAT	TON CON	e Road, Hudson, NH	DEPTH				WATER LEVEL -		109.5 (NGVD29) WATER LEVEL - Comp	letion	
Po	lster Ir	ndustries			7 f	ft	N/E		N/E	Y	
EQUIPME	QUIPMENT Takeuchi			AN \//on	مامدام	v Das	LAN	NGAN PERSO	NNEL Change		
ıa	keucni			vvan		y Doc	arno		Olivia Chasse		
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type Type		REMARKS			
\\ \cdot \cd	+109.5	6" Brown fine-medium SAND, trace silt, trace roots (dry)[TOPSOIL]		— 0 — -	-		Vertical sidev	valls maint	tained. No redox.		
	+109.0	Light brown fine SAND, trace silt (dry) [FILL]		 - 1 . 	- - - -						
	+107.5	Brown fine-medium SAND, some f-c gravel, trace silt, trace		 - 2 . 							
		cobbles, trace plastic pieces (dry) [FILL]		 . 3 .							
				- 4 - 							
				 - 5 .							
				 - 6 -							
*****	+102.5	Bottom of Test Pit at 7ft		- 7 - 			Bottom of fill Bottom of Te	material no	al on boulders at 7 ot encountered. t, no groundwater	ft.	
				- 8 - - 8 -	_ - -			oils in comp	ackfilled with pacted lifts to grad rass removed prio		
				 - 9 .	- - -						
				 - 10 -							
LA	N	6AN		— 11 —							

|VLANGAN.COM/DATA/BOS/DATA1/1510/1010/IPROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/1510/10101_ENTERPRISE_TEST PITS.GPJ ... 7/20/2020 9:21:17 AM Report: Log - LANGANTP

LOG OF TEST PIT B-S-TP-18 Sheet

PROJECT	PROJECT NUMBER DATE									
Hu				1510 ⁻	10101	6/29/2020 11:30:00 AM				
LOCATION 59		e Road, Hudson, NH	ELEVA	IION				Flev +	+ 114 (NGVD29)	
EXCAVAT	ION CON	utractor ndustries	DEPTH		7	ft	WATER LEV	/EL - First N/E	WATER LEVEL - Compl	etion
EQUIPME		-	FOREM	AN			•	LANGAN PERSOI	NNEL	
	T 305	DESCRIPTION		Depth Scale		MPLE	1clevy	Clevy Olivia Chasse REMARKS		
2.5 3.4 (1.20.3 (1.20.	+114.0	12" Brown fine-medium SAND, trace silt, trace roots (dry)[TOPSOIL] Light brown fine-medium SAND, some f-c gravel, trace silt (dry)[FILL] Dark brown fine-medium SAND, some silt, trace f-c gravel,		- 0 1 2 - 3 4 4	NN		Vertical s		ained. No redox.	
	+108.5	some plastic pieces, trace organics, trace rubber pieces (dry)[FILL] Light brown fine-medium SAND, trace silt, trace f-c gravel		- - 5 - -	- - - - -					
		(dry)		- - 6 - - - - - 7	- - - - - - -					
	+107.0	Bottom of Test Pit at 7ft		- 8 - 8 - 9 - 10			encounte excavate	ered. Test pit band d soils in comp restored with gr	, no groundwater ackfilled with acted lifts to grade ass removed prior	
		EAN		— 11 —		1	I			
/\	. / . /									

ILANGAN COMIDATAIBOSIDATA1151010101/PROJECT DATAI_DISCIPLINE/GEOTECHNICAL/GINTLOGS\15101010_ENTERPRISE_TEST PITS.GPJ ... 7/20/2020 9.21:18 AM ... Report. Log - LANGANTP

LOG OF TEST PIT B-S-TP-19 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 12:39:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 120 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Wanderley Docarno Takeuchi TB260 Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +120.0 9-10" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] Light brown fine-coarse SAND, trace silt, trace f-c gravel 1 (moist) 2 Light brown to gray fine-coarse rounded GRAVEL, trace silt, trace f-c sand, and COBBLES up to 8 inches (moist) 3 4 5 Light brown gravelly fine-coarse SAND, trace silt, trace cobbles up to 8 inches 6 /\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\ (moist) 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with 8 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

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LOG OF TEST PIT B-S-TP-20 Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 1:16:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 130.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Josh Mclevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +130.5 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No Redox. (dry)[TOPSOIL] Light brown fine-medium SAND, some f-c gravel, trace silt Roots to 0.5ft (dry) 1 2 Light brown fine-medium SAND, trace silt (dry) 3 4 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9

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Report:

7/20/2020 9:21:20 AM

ENTERPRISE TEST PITS.GPJ

LOG OF TEST PIT B-S-TP-21

		LOG OF 1E31		D-3) – I F	- -Z	I	Sileet I of I
PROJECT Huc	NAME dson l	_ogistics Center	PROJE	CT NUMBER	₹	5101		DATE 6/29/2020 2:13:00 PM
			ELEVA.	TION				Elev. + 143.5 (NGVD29)
EXCAVATI	ON CO	NTRACTOR	DEPTH		7.0	4	WATER LEV	/EL - First WATER LEVEL - Completion
			FOREM	IAN	7 f			N/E
CAT 304E					Jos		Levy	Taylor Sisti
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Type		REMARKS
// . <u> </u>	+143.5	9-11" Dark brown fine-medium SAND, some silt, some root (dry)[TOPSOIL]	ts	— 0 — 			Vertical si	idewalls maintained. No redox.
	+142.6	Light brown fine-medium SAND, some silt, trace roots (dry)		- - 1 - 				
	+142.1			- 2				
		Light brown fine-medium SAND, trace silt (dry)		- 3	- - - - -			
	+136.5			- 6 - 				
	. 150.5	Bottom of Test Pit at 7ft		-			encounter excavated	f Test Pit at 7ft, no groundwater red. Test pit backfilled with d soils in compacted lifts to grade. estored with grass removed prior to n.
				 - 9 - 				
				- 10 - - 11				

||LANGAN.COM/DATA/BOS/DATA/\151010101/PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_TEST PITS.GPJ ... 7/20/2020 9:21:21 AM ... Report: Log - LANGANTP

LOG OF TEST PIT B-S-TP-22 Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 7:26:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 115 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 9.5 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +115.0 4" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] Light brown to brown fine-medium SAND, some silt, trace f-c gravel, trace roots, trace plastic, trace organics 1 (moist)[FILL] 2 7/20/2020 9:21:23 AM Light brown to brown silty fine SAND, trace f-c gravel, trace 3 roots (moist) ILANGAN.COMIDATAIBOSIDATA1/151010101/PROJECT DATAI DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS.GPJ 4 G-1 at 4ft. Infiltration test B-IT-22 at 4ft, see Light brown to brown silty fine SAND, trace f-c gravel, trace cobbles up to 5 inches log for details. GRAB 9 (moist) 5 6 7 8 9 Bottom of Test Pit at 9.5ft Bottom of Test Pit at 9.5ft, no groundwater encountered. Test pit backfilled with 10 excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. **LANGAN**

LOG OF TEST PIT B-S-TP-23 Sheet of PROJECT NAME **Hudson Logistics Center** 151010101 6/30/2020 7:44:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 115.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Taylor Sisti Josh McLevy SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 9" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls moderately maintained. No (dry)[TOPSOIL] Light brown fine-coarse SAND, trace silt, trace fine gravel 1 (dry) 2 G-1 at 2ft. Infiltration test B-IT-23 at 2ft, see log for details. 9-3 Light brown gravelly fine-coarse SAND, trace silt, trace cobbles up to 4 inches (dry) 4 Light brown fine-coarse SAND, trace silt, trace fine gravel (dry) 5 /LANGAN.COM/DATA/BOS/DATA1/1510101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 6 7 8 Bottom of Test Pit at 8ft Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9

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TEST PITS.GPJ

APPENDIX E TEST PIT PHOTOGRAPHS









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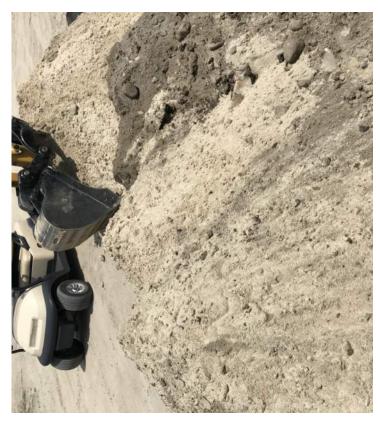
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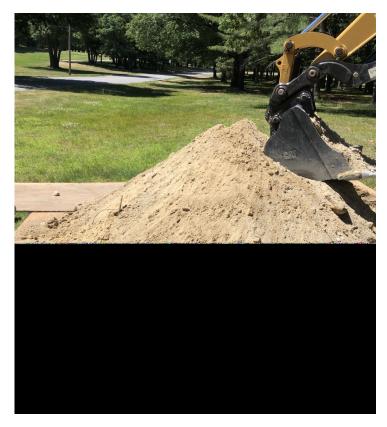
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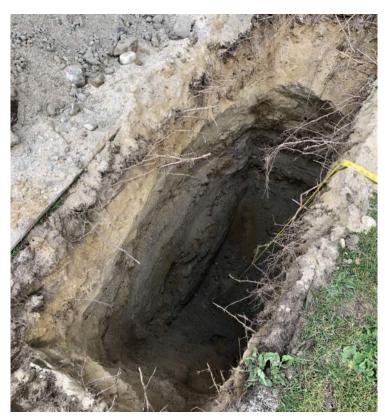


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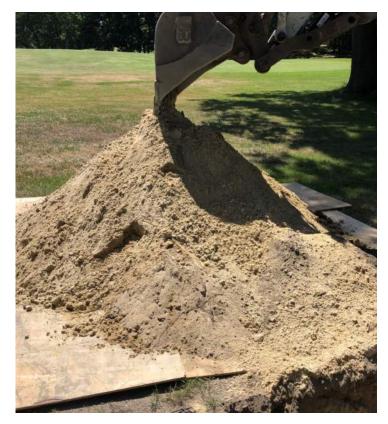
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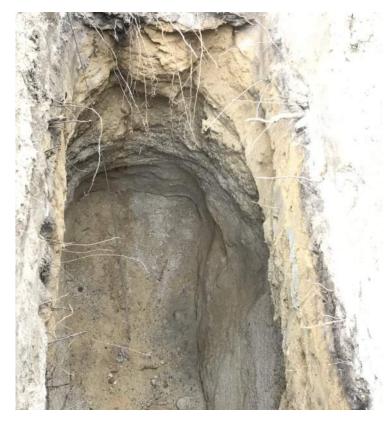


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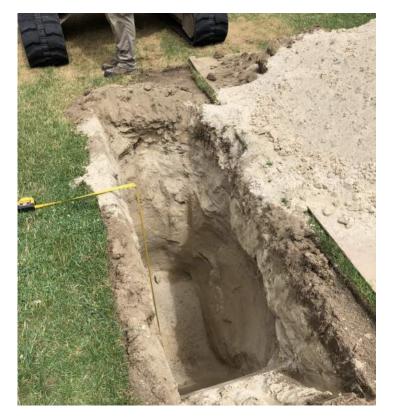






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APPENDIX F WELL CONSTRUCTION LOGS & READINGS

Lot B Summary of Groundwater Elevations Hudson, New Hampshire Langan Project No.: 151010101

Monitoring Well Lot ID					В				
Monitoring Well ID	B-B-BOR-03(OW)	B-B-BOR-15(OW)	B-S-BOR-17A(OW)	B-B-BOR-18(OW)	B-B-BOR-21(OW)	B-B-BOR-24(OW)	B-B-BOR-30(OW)	B-S-BOR-33A(OW)	B-B-BOR-47(OW)
Ground Surface Elevation (feet)	151.0	143.5	148.0	146.5	138.0	136.5	115.0	139.0	142.0
Installation Date	6/28/2020	6/10/2020	6/15/2020	6/27/2020	6/11/2020	6/2/2020	6/9/2020	6/9/2020	6/26/2020
Reference Point	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface
June 20, 2020									
Depth to Groundwater (feet)	NI	19.2	29.7	NI	14.2	15.1	22.5	13.9	NI
Groundwater Elevation (feet)	NA	124.3	118.3	NA	123.8	121.4	92.5	125.1	NA
June 30, 2020									
Depth to Groundwater (feet)	24.9	19.5	29.9	10.5	14.7	15.4	22.5	14.1	19.7
Groundwater Elevation (feet)	126.1	124.0	118.1	136.0	123.3	121.1	92.5	124.9	122.3
July 1, 2020									
Depth to Groundwater (feet)	NM	NM	NM	NM	NM	NM	NM	NM	NM
Groundwater Elevation (feet)	NA	NA	NA	NA	NA	NA	NA	NA	NA
July 19, 2020	·								
Depth to Groundwater (feet)	NM	NM	29.8	NM	NM	15.6	22.5	14.2	NM
Groundwater Elevation (feet)	NA	NA	118.2	NA	NA	120.9	92.5	124.8	NA
July 20, 2020	•	•						•	
Depth to Groundwater (feet)	25.6	19.5	29.9	11.6	15.4	15.9	22.6	14.5	20.7
Groundwater Elevation (feet)	125.4	124.0	118.1	134.9	122.6	120.6	92.4	124.5	121.3
July 29, 2020	•						•	•	
Depth to Groundwater (feet)	25.8	20.3	30.0	12.0	15.7	16.1	22.6	14.6	21.0
Groundwater Elevation (feet)	125.2	123.2	118.0	134.5	122.3	120.4	92.5	124.4	121.0

Notes:

- 1. "Depth to Groundwater" results are shown in feet below ground surface. "Groundwater Elevation" is given in feet and references the National Geodetic Vertical Datum of 1929 (NGVD 1929).
- 2. Ground surface elevations were estimated by Langan by interpolating between the ground surface contours shown on the existing conditions plan provided by Hayner/Swanson, Inc. (HSI) of Nashua, New Hampshire. As such, the elevations should be considered approximate.
- 3. Abbreviations

NI = Not Installed

NA = Not Applicable

NM = Not Measured

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-03(OW)						
PROJECT	Project Hudson	PROJECT NO. 151010101					
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DATUM Approx. 151 NGVD29					
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 6/28/2020 DATE FINISHED 6/28/2020					
DRILLING EQUIPMENT	Truck Rig	DRILLER John Knepple					
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR Jack Berritt					

Boring B-B-BOR-03(OW) was advance to about 31.3ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 1ft above the screen as the augers were removed. A 1-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings		
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips		
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand		
TOP OF CASING	ELEVATION		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH	
el.	151		0	<u></u>	CLASSIFICATION	(FT)	
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0	
el.	150.5		0.5				
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC			
el.	143		8	Riser →			
TOP OF FILTER	ELEVATION		DEPTH (ft)				
el.	142		9				
TOP OF SCREEN	ELEVATION		DEPTH (ft)	→ Backfill			
el.	141		10		Brown fine SAND		
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	↓ Seal	trace silt		
el.	119.7		31.3		trace fine gravel	10.0	
SCREEN LENGTH	20ft				-		
SLOT SIZE	0.1in			PVC			
				Screen			
GROUNI	DWATER EL	EVATIONS					
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand			
6/30/2020	126.10	24.90		Pack			
DATE	ELEVATION	DEPTH TO WATER (ft)					
7/20/2020	125.40	25.60				30.0	
DATE	ELEVATION	DEPTH TO WATER (ft)					
7/29/2020	125.20	25.80					
DATE	ELEVATION	DEPTH TO WATER (ft)					
DATE	ELEVATION	DEPTH TO WATER (ft)					
DATE	ELEVATION	DEPTH TO WATER (ft)					

	WELL CONSTRUCTION SUMMARY Well No.B-B-BOR-15(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010101				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	тим Арр	Prox.	143.5	NGVD29	
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 6/10/	2020	DATE FINIS	HED 6/10/2020		
DRILLING EQUIPMENT	CME Truck-Mounted Drill Rig	DRILLER	John Kneppl	le			
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Kenneth Ide	m			

Boring B-B-BOR-15(OW) was advance to about 30ft with 4" HSA. The boring was backfilled with soil cuttings to about 25ft. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 3ft above the screen as the augers were removed. A 3-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings		
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips		
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand		
TOP OF CASING	ELEVATION 143.5		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)	
TOP OF BACKFILL	ELEVATION 143		DEPTH (ft) 0.5	Cover	Ground Surface	0.0	
TOP OF SEAL	ELEVATION 134.5		DEPTH (ft)	2" PVC			
TOP OF FILTER	ELEVATION 131.5		DEPTH (ft)	nisei			
TOP OF SCREEN	ELEVATION		DEPTH (ft)	→ Backfil	·		
BOTTOM OF BORING	128.5 ELEVATION		15 DEPTH (ft)	I—— Sea	trace silt trace fine gravel		
el. Screen Length	113.5 10ft		30			15.0	
SLOT SIZE	0.1in			PVC			
GROUN	DWATER EL	EVATIONS		Screen			
6/20/2020 DATE	ELEVATION 124.30 ELEVATION	DEPTH TO WATER (ft) 19.20 DEPTH TO WATER (ft)		Sanc Pack			
6/30/2020	124.00	19.50				25.0	
7/20/2020	ELEVATION 124.00	DEPTH TO WATER (ft) 19.50					
7/29/2020	ELEVATION 123.20	DEPTH TO WATER (ft) 20.30					
DATE	ELEVATION	DEPTH TO WATER (ft)					
DATE	ELEVATION	DEPTH TO WATER (ft)					

WELL CONSTRUCTION SUMMARY Well No. B-S-BOR-17A(OW) PROJECT PROJECT NO. 151010101 Project Hudson LOCATION NGVD29 59 Steele Road, Hudson, NH **ELEVATION AND DATUM** Approx. 148 DRILLING AGENCY SoilTesting, Inc. **DATE STARTED** 6/15/2020 **DATE FINISHED** 6/15/2020 **DRILLING EQUIPMENT** Diedrich D50 DRILLER Sam DeAngelis SIZE AND TYPE OF BIT 4" Hollow Stem Auger INSPECTOR Justin Hall

METHOD OF INSTALLATION

Boring B-S-BOR-17A(OW) was advance to about 33ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 2.5ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL		Auger cuttings	
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL		3/8" Bentonite Chips	
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL		FilPro #2 sand	
TOP OF CASING el.	ELEVATION 148 ELEVATION		DEPTH (ft) 0 DEPTH (ft)	WELL DETAILS		SUMMARY SOIL CLASSIFICATION Ground Surface	DEPTH (FT) 0.0
	147.5		0.5			Ground Surrace	0.0
TOP OF SEAL el.	ELEVATION 129		DEPTH (ft) 19	2" PVC Riser		Dark Brown fine SAND	
TOP OF FILTER el.	ELEVATION 127		DEPTH (ft) 21			trace silt trace organics	
TOP OF SCREEN	ELEVATION 125		DEPTH (ft)		Backfill	FILL	12.0
BOTTOM OF BORING	ELEVATION		DEPTH (ft)		Seal		
el. Screen Length	115 10ft		33				
SLOT SIZE	0.1in			PVC Screen		Brown fine-medium SAND, trace silt	
GROUN	DWATER EL	EVATIONS		Screen			
DATE 6/20/2020	ELEVATION 118.30	DEPTH TO WATER (ft) 29.70		-	Sand Pack		
DATE 6/30/2020	ELEVATION 118.10	DEPTH TO WATER (ft) 29.90					33.0
DATE 7/9/2020	ELEVATION 118.20	DEPTH TO WATER (ft) 29.80					
DATE 7/20/2020	ELEVATION 118.10	DEPTH TO WATER (ft) 29.90					
DATE 7/29/2020	ELEVATION 118.00	DEPTH TO WATER (ft) 30.00					
DATE	ELEVATION	DEPTH TO WATER (ft)					

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-18(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010	101			
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	TUM	Approx.	146.5	NGVD29	
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 6/27/	/2020		DATE FINISHED 6/28/2020		
DRILLING EQUIPMENT	Truck Rig	DRILLER	Mike Ke	ennedy			
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Taylor S	Sisti			

Boring B-B-BOR-18(OW) was advance to about 20.1ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 2ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings	
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips	
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand	
TOP OF CASING	ELEVATION		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH
el.	146.5		0		CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	146		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	141.5		5	Riser		
TOP OF FILTER	ELEVATION		DEPTH (ft)		Light brown fine SAND,	
el.	139.5		7		trace silt	
TOP OF SCREEN	ELEVATION		DEPTH (ft)	→ Backfi	II trace fine gravel	
el.	137.5		9			
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	↓ Sea	al	
el.	126.4		20.1			9.0
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC		
GROUNI	OWATER EL	EVATIONS		Screen	TILL	
DATE	ELEVATION	DEPTH TO WATER (ft)		San	d	
6/30/2020	136.00	10.50		Pac		
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	134.90	11.60				19.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	134.50	12.00				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-21(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010	101			
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	ATUM	Approx.	138	NGVD29	
DRILLING AGENCY	Seaboard Drilling, Inc	DATE STARTED 6/11	1/2020		DATE FINISHED 6/11/2020		
DRILLING EQUIPMENT	Diedrich D50	DRILLER	Jeff Nit	sch			
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Taylor S	Sisti			

Boring B-B-BOR-21(OW) was advance to about 22ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 1ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings		
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips		
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand		
TOP OF CASING	ELEVATION 138		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)	
TOP OF BACKFILL	ELEVATION 137.5		DEPTH (ft) 0.5	Cover	Ground Surface	0.0	
TOP OF SEAL	ELEVATION 129		DEPTH (ft)	2" PVC			
TOP OF FILTER	ELEVATION 127		DEPTH (ft)	nisei	Brown SILT		
TOP OF SCREEN	ELEVATION 126		DEPTH (ft) 12	Backfill	varied		
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	↓ Seal			
el. SCREEN LENGTH	116 10ft		22			11.5	
SLOT SIZE	0.1in			PVC Screen	Brown fine SAND, trace silt		
GROUN	DWATER EL	EVATIONS			trace f-c gravel		
DATE 6/20/2020	ELEVATION 123.80	DEPTH TO WATER (ft) 14.20		Sand Pack		18.0	
DATE 6/30/2020	ELEVATION 123.30	DEPTH TO WATER (ft) 14.70			TILL	22.0	
DATE 7/20/2020	ELEVATION 122.60	DEPTH TO WATER (ft) 15.40					
DATE 7/29/2020	ELEVATION 122.30	DEPTH TO WATER (ft) 15.70					
DATE	ELEVATION	DEPTH TO WATER (ft)					
DATE	ELEVATION	DEPTH TO WATER (ft)					

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-24(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010101				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	тим Арр	rox. 136.5	NGVD29		
DRILLING AGENCY	Seaboard Drilling, Inc.	DATE STARTED 6/2/2	2020	DATE FINISHED 6/2/2020			
DRILLING EQUIPMENT	Track Rig	DRILLER	Doug Feely				
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Taylor Sisti				

Boring B-B-BOR-24(OW) was advance to about 20ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 2.5ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings		
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips		
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand		
TOP OF CASING	ELEVATION 136.5		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)	
TOP OF BACKFILL el.	ELEVATION 136		DEPTH (ft) 0.5	Cover	Ground Surface	0.0	
TOP OF SEAL	ELEVATION 131		DEPTH (ft) 5.5	2" PVC			
TOP OF FILTER	ELEVATION 129		DEPTH (ft)	Nisel -	Brown fine SAND, trace silt		
TOP OF SCREEN	ELEVATION		7.5 DEPTH (ft)	Backfi	1		
BOTTOM OF BORING	126.5 ELEVATION		DEPTH (ft)	■ Sea	al	10.0	
el. SCREEN LENGTH	116.5 20ft		20		Brown fine-medium SAND,		
SLOT SIZE	0.1in			PVC	trace silt		
GROUNI	DWATER EL	EVATIONS					
DATE 6/20/2020	ELEVATION 121.40	DEPTH TO WATER (ft) 15.10		San Pac		18.0	
DATE 6/30/2020	ELEVATION 121.10	DEPTH TO WATER (ft) 15.40			TILL	20.0	
DATE 7/9/2020	ELEVATION 120.90	DEPTH TO WATER (ft) 15.60					
DATE 7/20/2020	ELEVATION 120.60	DEPTH TO WATER (ft) 15.90					
DATE 7/29/2020	ELEVATION 120.40	DEPTH TO WATER (ft) 16.10					
DATE	ELEVATION	DEPTH TO WATER (ft)			1		

	WELL CONSTRUCTION SUMMARY Well No. B-S-BOR-30(OW)						
PROJECT	Project Hudson	PROJECT NO. 151010101					
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DATUM Approx. 115 NGVD29	Э				
DRILLING AGENCY	Seaboard Drilling, Inc.	DATE STARTED 6/9/2020 DATE FINISHED 6/9/2020					
DRILLING EQUIPMENT	Diedrich D50	DRILLER Jeff Nitsch					
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR Taylor Sisti					

Boring B-S-BOR-30(OW) was advance to about 29ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 2ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL Auger cuttings		
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips	
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand	
TOP OF CASING	ELEVATION . 115		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
TOP OF BACKFILL	ELEVATION . 114.5		DEPTH (ft) 0.5	Cover	Ground Surface	0.0
TOP OF SEAL	ELEVATION . 100		DEPTH (ft) 15	2" PVC		
TOP OF FILTER	ELEVATION . 98		DEPTH (ft)	Tilsel P		
TOP OF SCREEN	ELEVATION		DEPTH (ft)	→ Ba	ackfill	
BOTTOM OF BORING	ELEVATION		19 DEPTH (ft)		Light brown fine SAND, Seal trace silt	
el. SCREEN LENGTH	. 86 10ft		29		trace fine gravel	
SLOT SIZE	0.1in			PVC		
GROUN	DWATER EL	EVATIONS		Screen		
DATE 6/20/2020	ELEVATION 92.50	DEPTH TO WATER (ft) 22.50			Sand Pack	
DATE 6/30/2020	ELEVATION 92.50	DEPTH TO WATER (ft) 22.50				29.0
DATE 7/9/2020	ELEVATION 92.50	DEPTH TO WATER (ft) 22.50				
DATE 7/20/2020	ELEVATION 92.40	DEPTH TO WATER (ft) 22.60				
DATE 7/29/2020	ELEVATION 92.40	DEPTH TO WATER (ft) 22.60				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-33A(OW)						
PROJECT	Project Hudson	PROJECT NO. 1510	10101				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DATUM	Approx.	139	NGVD29		
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 6/2/2020		DATE FINISHED 6/2/2020			
DRILLING EQUIPMENT	Truck Mounted Diedrich D-50	DRILLER Sam	DeAngelis				
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR Justin	n Hall				

Boring B-B-BOR-33A(OW) was advance to about 8ft with 4" HSA. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 2ft above the screen as the augers were removed. A 2-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings	
D/DE 05 0005511	D) (C	DIAMETER	0.		O/Oll Paratarity Obias	
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips	
BOREHOLE DIAMETER	1 4"			TYPE OF FILTER MATERIAL	FilPro #2 sand	
TOP OF CASING	ELEVATION		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH
el	. 139		0	WELE DETAILS	CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el	. 138.5		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)		Seal Dark brown fine SAND	
el	. 131		8		trace silt, trace f-c gravel	
TOP OF FILTER	ELEVATION		DEPTH (ft)		FILL	4.0
el	. 129		10			
TOP OF SCREEN	ELEVATION		DEPTH (ft)		Light brown fine SAND,	
el	. 127		12		Sand trace fine gravel	8.0
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	PVC	Pack	
el	. 131		8	Screen		
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in				Stopped sampling	
GROUN	IDWATER EL	EVATIONS				
DATE	ELEVATION	DEPTH TO WATER (ft)				
6/20/2020	125.10	13.90				
DATE	ELEVATION	DEPTH TO WATER (ft)				
6/30/2020	124.90	14.10				22.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/9/2020	124.80	14.20				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	124.50	14.50				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	124.40	14.60				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. B-B-BOR-47(OW)						
PROJECT	Project Hudson	PROJECT NO.	1510101	101			
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	TUM	Approx.	142	NGVD29	
DRILLING AGENCY	Seaboard Drilling, Inc.	DATE STARTED 6/26/2	/2020		DATE FINISHED 6/26/2020		
DRILLING EQUIPMENT	Mobile Drill B53	DRILLER	Jeff Nits	sch			
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Reid Bal	lkind			

Boring B-B-BOR-47(OW) was advance to about 30.1ft with 4" HSA. The screen and riser for the well was placed into the borehole. A 4-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining augers were removed and the remainder of the borehole was backfilled with auger cuttings. A curb box was installed at grade.

METHOD OF WELL DEVELOPMENT

TYPE OF CASING	PVC	DIAMETER	2in.	TYPE OF BACKFILL MATERIAL	Auger cuttings	
TYPE OF SCREEN	PVC	DIAMETER	2in.	TYPE OF SEAL MATERIAL	3/8" Bentonite Chips	
BOREHOLE DIAMETER	4"			TYPE OF FILTER MATERIAL	FilPro #2 sand	
TOP OF CASING	ELEVATION 142		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
	141.5		0.5		Ground Sarrass	
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
	125		17	Riser -		
TOP OF FILTER	ELEVATION		DEPTH (ft)		Brown fine coarse SAND,	
el.			21		trace silt	
TOP OF SCREEN	ELEVATION		DEPTH (ft)	→ Backfill	trace f-c gravel	
el.			21			18.5
	ELEVATION		DEPTH (ft)	- Seal		
el.	111.9		30.1			
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC	TILL	
GROUNE	WATER EL	FVATIONS		Screen	IILL	
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand		
6/30/2020	122.30	19.70		Pack		
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	121.30	20.70				31.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	121.00	21.00				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

APPENDIX G LABORATORY TESTING RESULTS



Boring ID: --- Sample Type: --- Tested By: ckg
Sample ID: --- Test Date: 06/17/20 Checked By: jsc

Project No:

GTX-311848

Depth: --- Test Id: 559905

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-B-BOR-04	S- 6	10-12 ft	Moist, yellowish brown silty sand	6.8
B-B-BOR-05	S- 9	25-27 ft	Moist, olive silty sand	8.9
B-B-BOR-07	S- 9	25-27 ft	Moist, olive silty sand	9.1
B-B-BOR-12	S- 3	4-6 ft	Moist, yellowish brown silty sand	13.0
B-B-BOR-21	S- 3	4-6 ft	Moist, light olive brown silt with sand	22.4
B-B-BOR-22	S- 3	4-6 ft	Moist, light olive brown sandy silt	20.6
B-B-BOR-24	S- 7	15-17 ft	Moist, light olive brown silty sand	23.1
B-B-BOR-30	S- 11	35-37 ft	Moist, light yellowish brown silty sand	17.6
B-B-BOR-31	S- 7	14-16 ft	Moist, light yellowish brown silty with sand	25.3
B-B-BOR-32	S- 6A	10-11 ft	Moist, olive brown silt with sand	27.2

Notes: Temperature of Drying: 110° Celsius



Location:Hudson, NHProject No:GTX-311848Boring ID:---Sample Type:---Tested By:ckgSample ID:---Test Date:06/15/20Checked By:jsc

Depth: --- Test Id: 559410

Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
B-B-BOR-36	S- 7	14-16 ft	Moist, olive brown sand with silt and gravel	11.2
B-B-BOR-41	S- 3	4-6 ft	Moist, olive brown sand with silt and gravel	6.3
B-B-BOR-42	S- 8	20-22 ft	Moist, light olive brown sand with silt and gravel	3.2
B-B-BOR-43	S- 5	8-10 ft	Moist, olive brown silty sand	14.6
B-B-BOR-43	S- 8	20-22 ft	Moist, pale brown silty sand	7.9
B-B-BOR-44	S- 8	19-21 ft	Moist, light olive brown silt with sand	27.8
B-S-BOR-05	S- 4	6-8 ft	Moist, light yellowish brown sand with silt and gravel	2.5
B-S-BOR-14	S- 2	2-4 ft	Moist, pale brown silty sand	10.1
B-S-BOR-14	S- 3	4-6 ft	Moist, very pale brown silty sand	6.8
B-S-TP-22	G- 1	2-3 ft	Moist, light yellowish brown sand with silt and gravel	4.9

Notes: Temperature of Drying: 110° Celsius



Client: Langan Engineering Project: Project Hudson

Location: Hudson, NH Project No: GTX-311848 Boring ID: B-S-BOR-28 Sample Type: jar Tested By: cam

562925

07/08/20 Checked By: jsc Sample ID: S-3A Test Date: Depth: Test Id:

4-6 ft Test Comment:

Visual Description: Moist, dark brown silty clay

Sample Comment:

Moisture, Ash, and Organic Matter - ASTM D2974

Boring ID	Sample ID	Depth	Description	Moisture Content,%	Ash Content,%	Organic Matter,%
B-S-BOR-28	S-3A	4-5 ft	Moist, dark brown silty clay	19	97.0	3.0

Notes: Moisture content determined by Method A and reported as a percentage of oven-dried mass; dried to a constant mass at temperature of 105° C Ash content and organic matter determined by Method C; dried to constant mass at temperature 440° C



Client: Langan Engineering Project: Project Hudson

Location: Hudson, NH Project No: GTX-311848
Boring ID: --- Sample Type: --- Tested By: ckg

Boring ID: --- Sample Type: --- Tested By: ckg
Sample ID: --- Test Date: 06/22/20 Checked By: jsc

Depth: --- Test Id: 559919

Amount of Material Passing #200 Sieve - ASTM D1140

Boring ID	Sample ID	Depth	Visual Description	Fines, %
B-B-BOR-05	S-9	25-27 ft	Moist, olive silty sand	38.0
B-B-BOR-21	S-3	4-6 ft	Moist, light olive brown silt with sand	77.8
B-B-BOR-24	S-7	15-17 ft	Moist, light olive brown silty sand	27.3
B-B-BOR-32	S-6A	10-11 ft	Moist, olive brown silt with sand	76.1
B-B-BOR-44	S-8	19-21 ft	Moist, light olive brown silt with sand	72.3

Notes: Tests performed using Method B - washing using a wetting agent Dry mass of test specimen was determined directly



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-04Sample Type:jarTested By:ckgSample ID:S-6Test Date:07/09/20Checked By:jsc

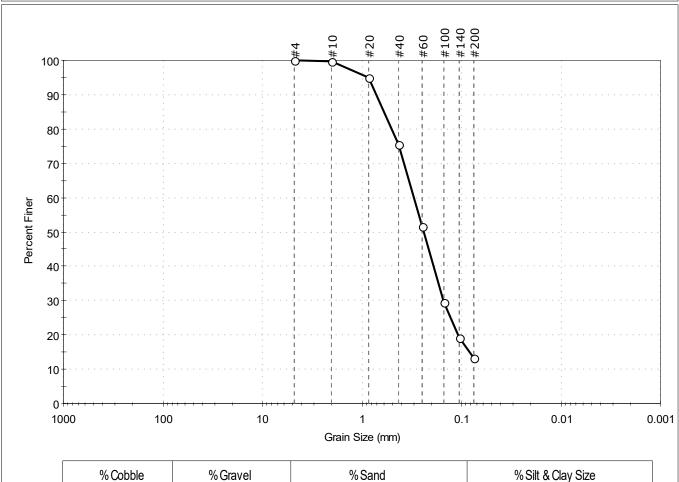
Depth: 10-12 ft Test Id: 562965

Test Comment: ---

Visual Description: Moist, yellowish brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
-	0.1	86.7	13.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	95		
#40	0.42	75		
#60	0.25	52		
#100	0.15	29		
#140	0.11	19		
#200	0.075	13		

<u>Coefficients</u>		
D ₈₅ = 0.5962 mm	$D_{30} = 0.1521 \text{ mm}$	
D ₆₀ = 0.3013 mm	$D_{15} = 0.0832 \text{ mm}$	
D ₅₀ = 0.2410 mm	$D_{10} = N/A$	
$C_u = N/A$	$C_c = N/A$	

GTX-311848

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:GTX-311848Boring ID:B-B-BOR-07Sample Type: jarTested By:ckgSample ID:S-9Test Date:06/22/20Checked By:bfs

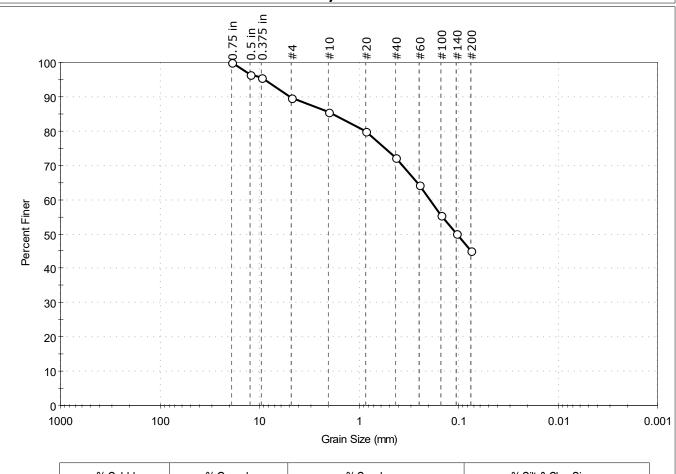
Depth: 25-27 ft Test Id: 559921

Test Comment: ---

Visual Description: Moist, olive silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	10.3	44.7	45.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	97		
0.375 in	9.50	95		
#4	4.75	90		
#10	2.00	86		
#20	0.85	80		
#40	0.42	72		
#60	0.25	64		
#100	0.15	55		
#140	0.11	50		
#200	0.075	45		

<u>Coefficients</u>		
D ₈₅ = 1.8513 mm	$D_{30} = N/A$	
D ₆₀ = 0.1958 mm	$D_{15} = N/A$	
D ₅₀ = 0.1044 mm	$D_{10} = N/A$	
$C_u = N/A$	$C_c = N/A$	

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

<u>Sample/Test Description</u> Sand/Gravel Particle Shape: ANGULAR

Sand/Gravel Hardness: HARD



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-12Sample Type:jarTested By:ckgSample ID:S-3Test Date:07/09/20Checked By:jsc

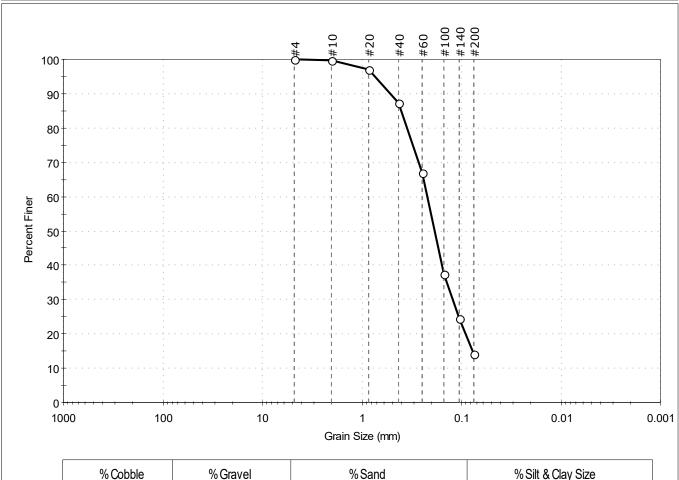
Depth: 4-6 ft Test Id: 562933

Test Comment: ---

Visual Description: Moist, yellowish brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	0.1	85.8	14.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	97		
#40	0.42	87		
#60	0.25	67		
#100	0.15	38		
#140	0.11	25		
#200	0.075	14		

<u>Coefficients</u>		
D ₈₅ = 0.4010 mm	$D_{30} = 0.1226 \text{ mm}$	
D ₆₀ = 0.2212 mm	D ₁₅ = 0.0773 mm	
D ₅₀ = 0.1861 mm	$D_{10} = N/A$	
$C_u = N/A$	$C_c = N/A$	

GTX-311848

ASTM N/A

Classification

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape : ---

Sand/Gravel Hardness : ---



Location: Hudson, NH Project No: COME Boring ID: B-B-BOR-22 Sample Type: jar Tested By: ckg Sample ID: S-3 Test Date: 06/22/20 Checked By: bfs

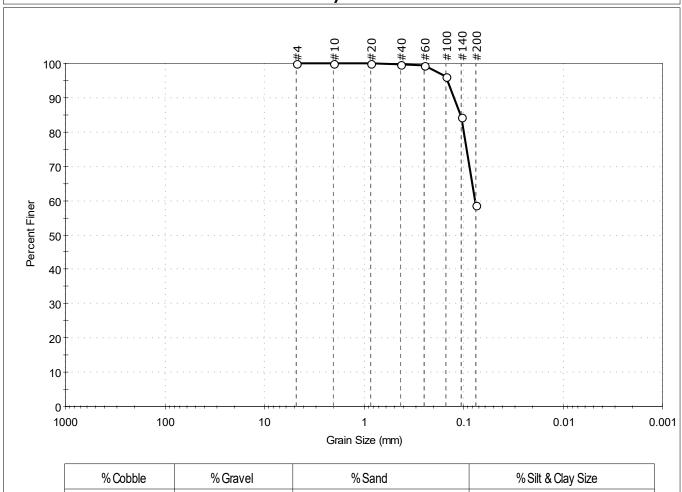
Depth: 4-6 ft Test Id: 559920

Test Comment: ---

Visual Description: Moist, light olive brown sandy silt

Sample Comment: ---

Particle Size Analysis - ASTM D6913



41.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	96		
#140	0.11	84		
#200	0.075	59		

0.0

<u>Coefficients</u>				
$D_{85} = 0.1079 \text{ mm}$	$D_{30} = N/A$			
D ₆₀ = 0.0763 mm	$D_{15} = N/A$			
$D_{50} = N/A$	$D_{10} = N/A$			
$C_u = N/A$	$C_C = N/A$			

58.8

GTX-311848

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-30Sample Type: jarTested By:ckgSample ID:S-11Test Date:06/22/20Checked By:bfs

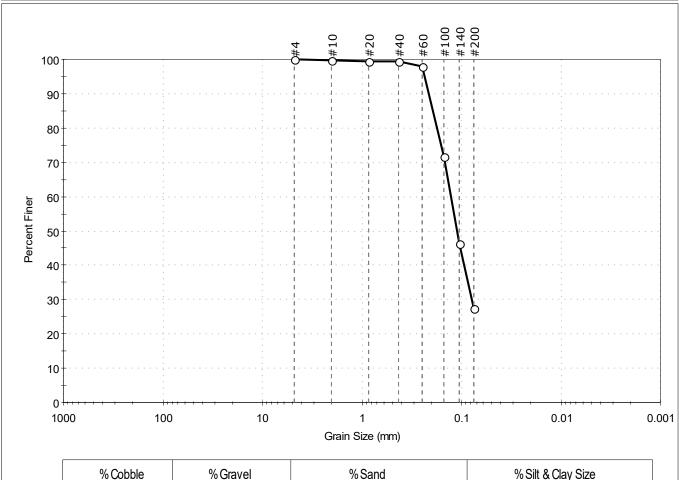
Depth: 35-37 ft Test Id: 559923

Test Comment: --

Visual Description: Moist, light yellowish brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	0.0	72.6	27.4

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	98		
#100	0.15	72		
#140	0.11	46		
#200	0.075	27		

	<u>Coefficients</u>		
D ₈₅ = 0.1944 mm		$D_{30} = 0.0787 \text{ mm}$	
	D ₆₀ = 0.1280 mm	$D_{15} = N/A$	
	D ₅₀ = 0.1117 mm	$D_{10} = N/A$	
	$C_u = N/A$	$C_c = N/A$	

GTX-311848

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-31Sample Type:jarTested By:ckgSample ID:S-7Test Date:07/09/20Checked By:jsc

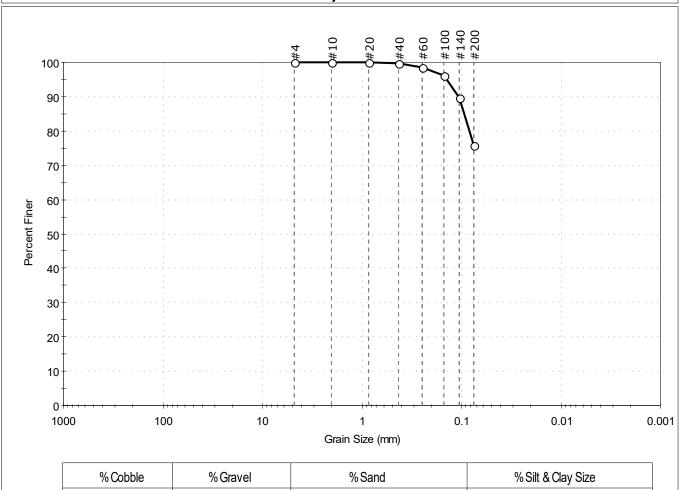
Depth: 14-16 ft Test Id: 562932

Test Comment: ---

Visual Description: Moist, light yellowish brown silty with sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



24.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	99		
#100	0.15	96		
#140	0.11	90		
#200	0.075	76		

0.1

<u>Coefficients</u>				
D ₈₅ = 0.0942 mm	$D_{30} = N/A$			
$D_{60} = N/A$	$D_{15} = N/A$			
$D_{50} = N/A$	$D_{10} = N/A$			
$C_u = N/A$	$C_c = N/A$			

75.8

GTX-311848

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: ---

Sand/Gravel Hardness : ---



Location:Hudson, NHProject No:GTX-311848Boring ID:B-B-BOR-36Sample Type: jarTested By:ckgSample ID:S-7Test Date:07/09/20Checked By:jsc

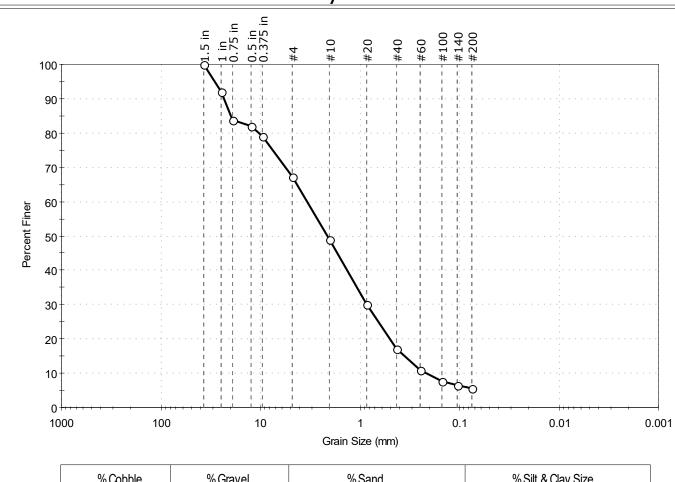
Depth: 14-16 ft Test Id: 562931

Test Comment: ---

Visual Description: Moist, olive brown sand with silt and gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	32.7	61.8	5.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	92		
0.75 in	19.00	84		
0.5 in	12.50	82		
0.375 in	9.50	79		
#4	4.75	67		
#10	2.00	49		
#20	0.85	30		
#40	0.42	17		
#60	0.25	11		
#100	0.15	8		
#140	0.11	6		
#200	0.075	5.5		

Coefficients				
D ₈₅ =19.7770 mm	D ₃₀ = 0.8491 mm			
D ₆₀ = 3.3748 mm	D ₁₅ = 0.3552 mm			
D ₅₀ = 2.1096 mm	$D_{10} = 0.2139 \text{ mm}$			
$C_{II} = 15.777$	$C_c = 0.999$			

N/A Classification

<u>Sample/Test Description</u> Sand/Gravel Particle Shape: ANGULAR

 ${\sf Sand/Gravel\; Hardness: HARD}$

<u>ASTM</u>



Location:Hudson, NHProject No:GTX-311848Boring ID:B-B-BOR-41Sample Type: jarTested By:ckgSample ID:S-3Test Date:06/10/20Checked By:bfs

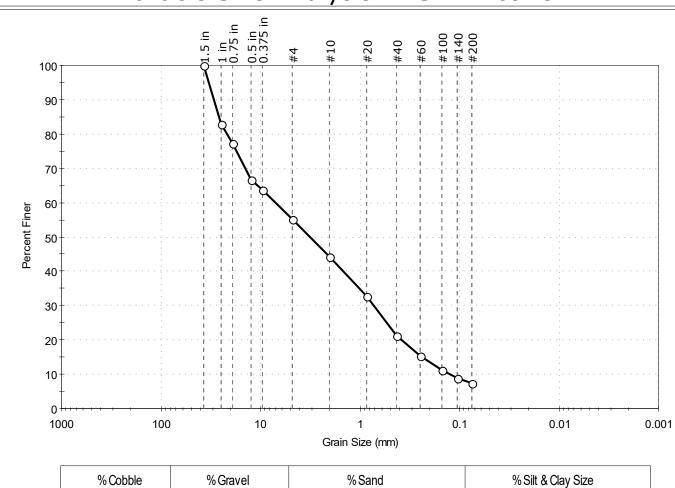
Depth: 4-6 ft Test Id: 559412

Test Comment: ---

Visual Description: Moist, olive brown sand with silt and gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	%Sand	% Silt & Clay Size
_	44.7	48.0	7.3

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	83		
0.75 in	19.00	77		
0.5 in	12.50	67		
0.375 in	9.50	64		
#4	4.75	55		
#10	2.00	44		
#20	0.85	33		
#40	0.42	21		
#60	0.25	15		
#100	0.15	11		
#140	0.11	9		
#200	0.075	7.3		

<u>Coefficients</u>				
D ₈₅ = 26.3464 mm	$D_{30} = 0.7178 \text{ mm}$			
D ₆₀ = 6.9822 mm	$D_{15} = 0.2385 \text{ mm}$			
D ₅₀ = 3.1344 mm	$D_{10} = 0.1231 \text{ mm}$			
C ₁₁ =56.720	$C_c = 0.599$			

ASTM N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-a (1))

<u>Sample/Test Description</u> Sand/Gravel Particle Shape : ANGULAR

Sand/Gravel Hardness : HARD



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-42Sample Type: jarTested By:ckgSample ID:S-8Test Date:06/11/20Checked By:bfs

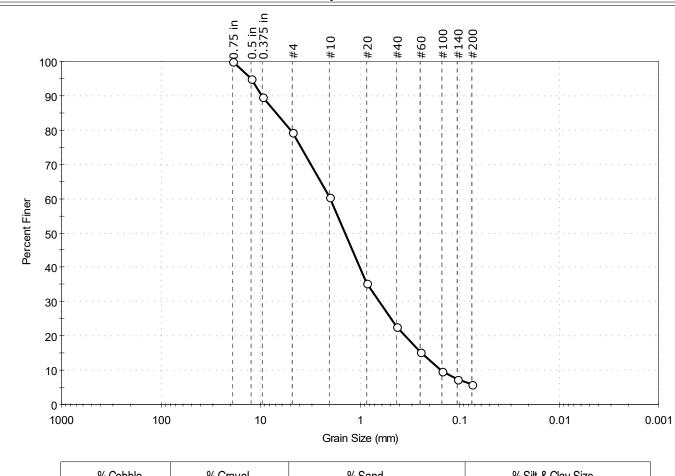
Depth: 20-22 ft Test Id: 559415

Test Comment: ---

Visual Description: Moist, light olive brown sand with silt and gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	20.8	73.3	5.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	95		
0.375 in	9.50	90		
#4	4.75	79		
#10	2.00	61		
#20	0.85	35		
#40	0.42	23		
#60	0.25	15		
#100	0.15	10		
#140	0.11	7		
#200	0.075	5.9		

<u>Coefficients</u>		
D ₈₅ = 6.9792 mm	$D_{30} = 0.6322 \text{ mm}$	
D ₆₀ = 1.9626 mm	D ₁₅ =0.2405 mm	
D ₅₀ = 1.3956 mm	$D_{10} = 0.1538 \text{ mm}$	
Cu =12.761	$C_c = 1.324$	

GTX-311848

Classification N/A

AASHTO Stone Fragments, Gravel and Sand (A-1-b (1))

<u>Sample/Test Description</u> Sand/Gravel Particle Shape: ANGULAR

Sand/Gravel Hardness: HARD

ASTM



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-43Sample Type: jarTested By:ckgSample ID:S-5Test Date:06/10/20Checked By:bfs

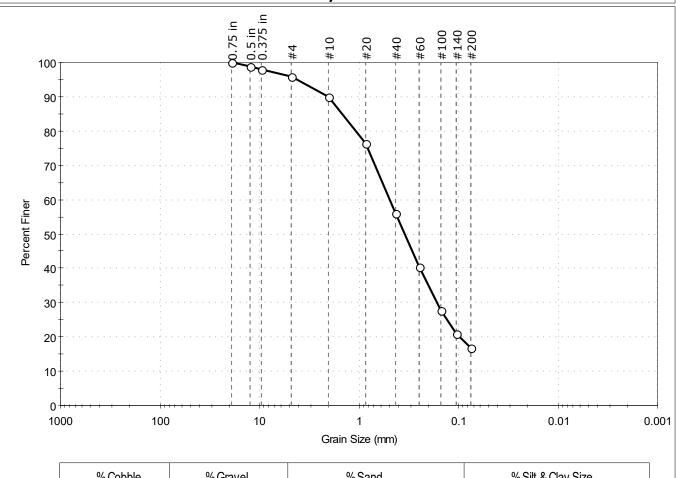
Depth: 8-10 ft Test Id: 559414

Test Comment: ---

Visual Description: Moist, olive brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	4.0	79.2	16.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	99		
0.375 in	9.50	98		
#4	4.75	96		
#10	2.00	90		
#20	0.85	77		
#40	0.42	56		
#60	0.25	40		
#100	0.15	28		
#140	0.11	21		
#200	0.075	17		

<u>Coefficients</u>			
D ₈₅ = 1.4597 mm	$D_{30} = 0.1649 \text{ mm}$		
D ₆₀ = 0.4851 mm	$D_{15} = N/A$		
D ₅₀ = 0.3454 mm	$D_{10} = N/A$		
C _u =N/A	C _c =N/A		

GTX-311848

ASTM N/A

AASHTO Silty Gravel and Sand (A-2-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: ANGULAR
Sand/Gravel Hardness + HARD

Sand/Gravel Hardness : HARD



Location:Hudson, NHProject No:CBoring ID:B-B-BOR-43Sample Type: jarTested By:ckgSample ID:S-8Test Date:06/11/20Checked By:bfs

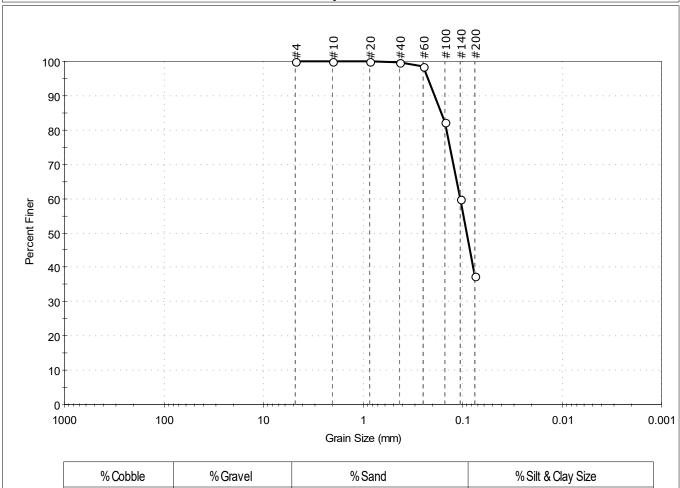
Depth: 20-22 ft Test Id: 559418

Test Comment: ---

Visual Description: Moist, pale brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



62.6

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	100		
#60	0.25	98		
#100	0.15	82		
#140	0.11	60		
#200	0.075	37		

0.0

<u>Coefficients</u>				
D ₈₅ = 0.1628 mm	$D_{30} = N/A$			
D ₆₀ = 0.1062 mm	$D_{15} = N/A$			
D ₅₀ = 0.0911 mm	$D_{10} = N/A$			
C _u =N/A	$C_c = N/A$			

37.4

GTX-311848

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:GTX-311848Boring ID:B-S-BOR-05Sample Type: jarTested By:ckgSample ID:S-4Test Date:06/22/20Checked By:bfs

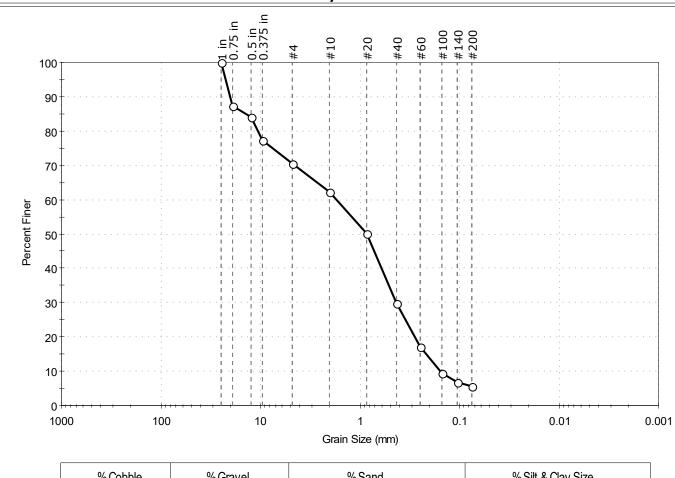
Depth: 6-8 ft Test Id: 559924

Test Comment: ---

Visual Description: Moist, light yellowish brown sand with silt and gravel

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	29.4	65.1	5.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	87		
0.5 in	12.50	84		
0.375 in	9.50	77		
#4	4.75	71		
#10	2.00	62		
#20	0.85	50		
#40	0.42	30		
#60	0.25	17		
#100	0.15	9		
#140	0.11	7		
#200	0.075	5.5		

<u>Coefficients</u>				
$D_{85} = 14.0030 \text{ mm}$	$D_{30} = 0.4262 \text{ mm}$			
$D_{60} = 1.6943 \text{ mm}$	D ₁₅ =0.2177 mm			
$D_{50} = 0.8460 \text{ mm}$	$D_{10} = 0.1559 \text{ mm}$			
$C_{11} = 10.868$	$C_c = 0.688$			

ASTM N/A Classification

AASHTO Stone Fragments, Gravel and Sand

<u>Sample/Test Description</u> Sand/Gravel Particle Shape: ANGULAR

Sand/Gravel Hardness: HARD

(A-1-b(1))



Location: Hudson, NH Project No: C
Boring ID: B-S-BOR-14 Sample Type: jar Tested By: ckg
Sample ID: S-2 Test Date: 06/10/20 Checked By: bfs

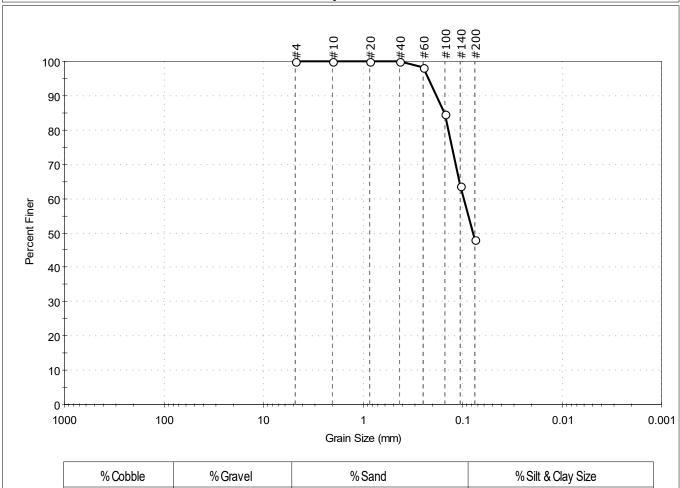
Depth: 2-4 ft Test Id: 559417

Test Comment: ---

Visual Description: Moist, pale brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



52.0

	Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
	#4	4.75	100		
	#10	2.00	100		
	#20	0.85	100		
	#40	0.42	100		
	#60	0.25	98		
	#100	0.15	85		
	#140	0.11	64		
	#200	0.075	48		
ĺ					

0.0

<u>Coefficients</u>				
D ₈₅ = 0.1514 mm	$D_{30} = N/A$			
D ₆₀ = 0.0975 mm	$D_{15} = N/A$			
D ₅₀ = 0.0783 mm	$D_{10} = N/A$			
C _u =N/A	C _c =N/A			

48.0

GTX-311848

ASTM N/A

AASHTO Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:GTX-311848Boring ID:B-S-BOR-14Sample Type: jarTested By:ckgSample ID:S-3Test Date:06/10/20Checked By:bfs

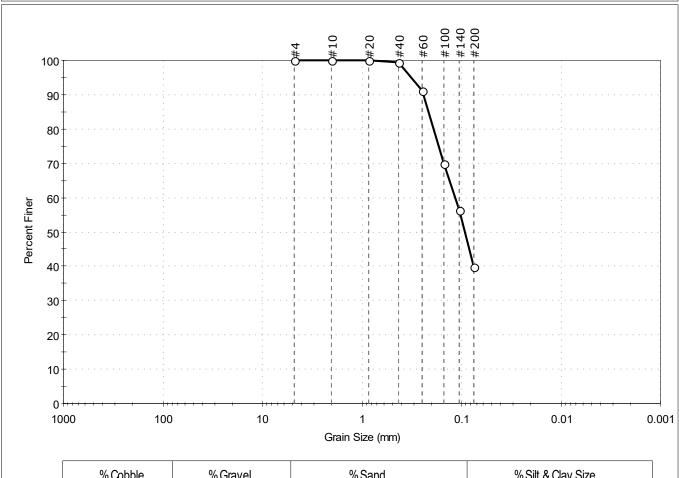
Depth: 4-6 ft Test Id: 559419

Test Comment: --

Visual Description: Moist, very pale brown silty sand

Sample Comment: ---

Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	0.0	60.1	39.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	99		
#60	0.25	91		
#100	0.15	70		
#140	0.11	56		
#200	0.075	40		

<u>Coefficients</u>				
D ₈₅ = 0.2158 mm	$D_{30} = N/A$			
D ₆₀ = 0.1164 mm	$D_{15} = N/A$			
D ₅₀ = 0.0928 mm	$D_{10} = N/A$			
$C_u = N/A$	C _c =N/A			

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

Sample/Test Description
Sand/Gravel Particle Shape: --Sand/Gravel Hardness: ---



Location:Hudson, NHProject No:CBoring ID:B-S-TP-22Sample Type:bagTested By:ckgSample ID:G-1Test Date:08/03/20Checked By:bfs

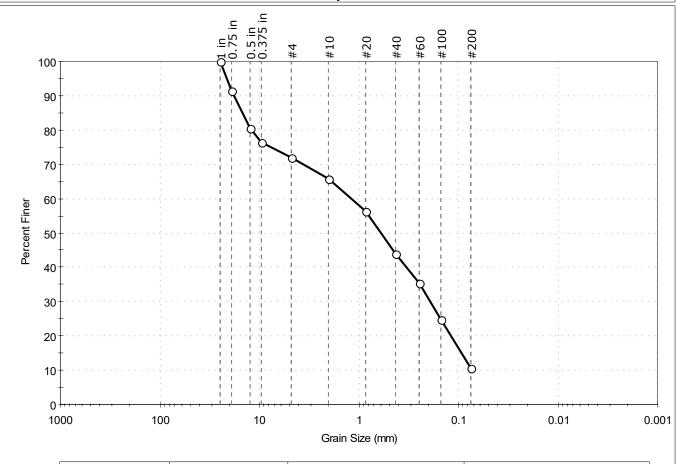
Depth: 2-3 ft Test Id: 567306

Test Comment: ---

Visual Description: Moist, light yellowish brown sand with silt and gravel

Sample Comment: ---

Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	28.1	61.4	10.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	91		
0.5 in	12.50	81		
0.375 in	9.50	76		
#4	4.75	72		
#10	2.00	66		
#20	0.85	56		
#40	0.42	44		
#60	0.25	35		
#100	0.15	25		
#200	0.075	11		

	0.00
D ₈₅ = 14.8284 mm	$D_{30} = 0.1937 \text{ mm}$
D ₆₀ = 1.1873 mm	$D_{15} = 0.0933 \text{ mm}$
D ₅₀ = 0.5959 mm	$D_{10} = N/A$
$C_u = N/A$	$C_c = N/A$

Coefficients

GTX-311848

ASTM N/A Classification

AASHTO Stone Fragments, Gravel and Sand (A-1-b (0))

<u>Sample/Test Description</u> Sand/Gravel Particle Shape: ANGULAR

Sand/Gravel Hardness : HARD





PO Box 572455 / Salt Lake City UT 84157-2455 / USA TEL +1 801 262 2448 · FAX +1 801 262 9870 · www.TEi-TS.com

Analysis No. TS-A2008802
Report Date 10 July 2020
Date Sampled 06 July 2020
Date Received 09 July 2020
Where Sampled Acton, MA USA

Sampled By Client

This is to attest that we have examined: Soil for Project Name: Project Hudson; Site Location Hudson, NH; Job Number: GTX-311848

When examined to the applicable requirements of:

ASTM D 512-12 "Standard Test Methods for Chloride Ion in Water" Method B

ASTM D 516-16 "Standard Test Method for Sulfate Ion in Water"

Results:

ASTM D 512 - Chloride Method B

Cor	Sample		Results				
Sai	npie	ppm (mg/kg)	% ¹	Detection Limit			
B-B-B	OR-04	12.	0.0012				
S-4	6 – 8'	12.	0.0012				
B-B-B	OR-04	-10	-0.0010	10.			
S-6	10 – 12'	<10.	<0.0010				
B-B-B	OR-12	<10.	<0.0010				
S-2	2 – 4'	< 10.	<0.0010				
B-B-B	OR-18	<10.	<0.0010				
S-3	4 – 6'	< 10.	<0.0010				
B-B-BOR-26		<10.	<0.0010				
S-2	2 – 4'	< 10.	<0.0010				

NOTE: ¹Percent by weight as received.



255 South 500 West
567 CES Salt Lake City, UT 84115-4234 USA

analytical TEL: +1 801 262 2448 Laboratory FAX: +1 801 262 9870 Analysis TS-A2008802 GeoTesting Express, Inc. Page 2 of 2

Report Date: 10 July 2020

CERTIFICATE OF ANALYSIS

ASTM D 516 - Sulfates (Soluble)

Con	onlo	Res	Detection Limit	
Sal	nple	ppm (mg/kg)	% ¹	Detection Limit
B-B-B	OR-04	-10	10.0010	
S-4	6 – 8'	<10.	<0.0010	
B-B-B	OR-04	-10	<0.0010	
S-6	10 – 12'	<10.	<0.0010	10.
B-B-B	OR-12	<10.	<0.0010	
S-2	2 – 4'	< 10.	<0.0010	
B-B-B	OR-18	.40	-0.0040	
S-3	4 – 6'	<10.	<0.0010	
B-B-B	OR-26	-10	10.0010	
S-2	2 – 4'	<10.	<0.0010	

NOTE: 1Percent by weight as received

END OF ANALYSIS

USEPA Laboratory ID UT00930

Merrill Gee P.E. - Engineer in Charge

APPENDIX H
INFILTRATION TEST LOGS

LANGAN

INFILTRATION TESTS

B-IT-22 performed in B-S-TP-22

B-H-22 performed in B-3-H-22									
PROJECT	Project Hudson		PROJECT NO. 1510	151010101					
LOCATION	59 Steele Road, H	Hudson, NH	DATE 6/29/	6/29/2020					
INSPECTOR	Olivia Chasse	WEATHER Cloudy, 70s°F							
PRESOAK	TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM	1					
Sta	rt 12:05	24	Surface Elevation	Approx.	115	(NGVD29)			
En	d 12:19	0	Top of Hole Elevation	Approx.	113.0	(NGVD29)			
			Bottom of Hole Elevation	Approx.	111.0	(NGVD29)			

METHOD OF INFILTRATION TEST

B-S-TP-22 was advanced to a depth of about 2 feet below existing grade. An about 6-inch diameter, 24-inch deep hole was dug by hand with a post hole digger. The circumfrence of the hole was then lined with a 6-inch diameter, 30-inch long PVC pipe. Before running infiltration tests, the hole was presoaked with 24 inches of water and allowed to drain. For each infiltration test, the hole was filled with water to a predetermined depth of 24 inches. Then, the time was recorded after one hour or the time for the water to drain 24 inches was recorded. The tables below outline the calculations for determining the average rate in which the water dissipated. Test pit B-S-TP-22 was advanced to to termination depth following completion of the infiltration test.

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CO	DNDITIONS
TEST 1	0 960	24 0	- 960	- 1.50	90.00	4 ~	e SAND, some fine to coarse silt, trace cobbles
			Av	erage Rate:	90.0	inches/hour	
			TIME				•

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
TEST 2	0	24	-	-	-	Light brown to brown fine SAND, some fine to coars gravel, trace silt, trace cobbles	
1231 2	1380	0	1380	1.04	62.61		
			Δν	erane Rate	62.6	inches/hour	

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
TEST 3	0	24	-	-	-	Light brown to brown fine	e SAND, some fine to coarse
12313	1380	0	1380	1.04	62.61	gravel, trace s	silt, trace cobbles
			Av	erage Rate:	62.6	inches/hour	

ı							
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
TEST 4	0	24	1	-	1	Light brown to brown fine	e SAND, some fine to coarse
1231 4	1560	0	1560	0.92	55.38	gravel, trace s	silt, trace cobbles
			Av	erage Rate:	55.4	inches/hour	

Lowest Average Rate	55.4	inches/hour
---------------------	------	-------------

<u>LANGA</u>N

INFILTRATION TESTS

B-IT-23 performed in B-S-TP-23

			В 11 20 роп	OIIIIOG III B	0 11 20				
PROJECT		Project Hudson		PROJECT NO.	1510	151010101			
LOCATION		59 Steele Road, H	ludson, NH	DATE	6/29/	6/29/2020			
INSPECTOR	Olivia Chasse			WEATHER Cloudy, 70s°F					
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVA	ATION AND DATUM	1			
St	art	12:40	24		Surface Elevation	Approx.	115.5	(NGVD29)	
E	nd	12:50	0	To	p of Hole Elevation	Approx.	115.5	(NGVD29)	
			_	Botton	n of Hole Elevation	Approx.	113.5	(NGVD29)	

METHOD OF INFILTRATION TEST

An about 6-inch diameter, 24-inch deep hole was dug below surface grade, by hand with a post hole digger. The circumfrence of the hole was then lined with a 6-inch diameter, 30-inch long PVC pipe. Before running infiltration tests, the hole was presoaked with 24 inches of water and allowed to drain. For each infiltration test, the hole was filled with water to a predetermined depth of 24 inches. Then, the time was recorded after one hour or the time for the water to drain 24 inches was recorded. The tables below outline the calculations for determining the average rate in which the water dissipated. Test pit B-S-TP-23 was advanced to to termination depth following completion of the infiltration test.

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CO	DNDITIONS
TEST 1	0	24	-	-	-	Light brown fine to coars	e SAND, trace silt, trace fine
. 20	960	0	960	1.50	90.00	9	ravel
			Av	erage Rate:	90.0	inches/hour	
						_	•

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS
TEST 2	0	24	-	-	-	Light brown fine to coarse SAND, trace silt, trace fine
1231 2	1320	0	1320	1.09	65.45	gravel
			Av	erage Rate:	65.5	inches/hour

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
TEST 3	0	24	-	-	-	Light brown fine to coarse SAND, trace silt, trace f	
1231 3	1080	0	1080	1.33	80.00	gravel	
			Av	erage Rate:	80.0	inches/hour	

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
TEST 4	0	24	-	-	-	Light brown fine to coarse SAND, trace silt, trace fir	
1231 4	1200	0	1200	1.20	72.00	gravel	
			Av	erage Rate:	72.0	inches/hour	

Lowest Average Rate:	65.5	inches/hour
----------------------	------	-------------

APPENDIX I PAVEMENT DESIGN

APPENDIX I.1 FLEXIBLE PAVEMENT DESIGN SITE AREAS (LOTS A, B, C)

Project Information:

Project Title: Hudson Logistic Center Project No.: 151010101

Project Town: Hudson Performed By: NA

Project State: New Hampshire Date: 6/16/2020

Client: Hudson Logistic Center Location: Site Areas (All Lots)

Design Information:

O Design Life: 20 years

Initial Servicibility (Po): 4.2

• Terminal Servicibility Index (TSI): 2.5

Servicibility (Po - TSI): 1.7

O Soil Description: FILL & SP/SM

USCS Symbol: SP/SM

O California Bearing Ratio (CBR): 10

• Resilent Modulus (MR): 15000 PSI

• Reliability Factor (R): 0.90

Standard Deviation (Sd): 0.45

O Direction Distribution Factor (Do): 1.00

Lane Distribution Factor (DI):

CBR Based on: Estimated Value

*MR = CBR*1,500 5 <= CBR <= 10

*MR = 3000*CBR^0.65 CBR > 10

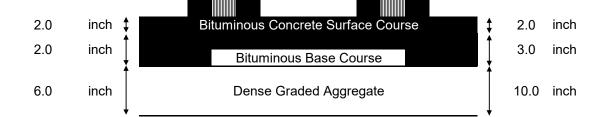
Summary of Results

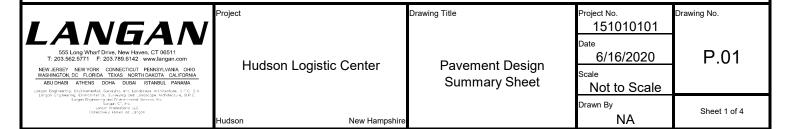
Standard Section

Heavy Duty Section

1.00

Design ESAL: 11,422 Design ESAL: 2,177,920





Calculate Equivalent 18-kip Single Axle Loading (ESALs)

Equivalent Single Axle Loads per Vehicle

Load Equivalency

o Typical Car: Factors: Calculated ESALs

(S) Front Single Axle: 2 kips $\overline{\text{LEF}} = 0.001045$ (1 axle)(0.001045)+(1 axle)(0.001044 **0.00209 /car**

(S) Rear Single Axle: 2 kips LEF = 0.001045

• Typical Delivery Van: Calculated ESALs

(S) Front Single Axle: 8 kips LEF = 0.0343 (1 axle)(0.0343)+(1 axle)(0.0343) = **0.0686 /truck**

(S) Truck Rear Axle: 8 kips LEF = 0.0343

• Typical Truck and Trailer (HS20): Calculated ESALs

(S) Front Single Axle: 12 kips LEF = 0.189 ((Front axle)(0.189)+(Rear axle)(0.8905)

(T) Truck Rear Axle: 32 kips LEF = 0.8905 +(Trailer Tandem)(0.8905)) = **1.97 /truck**

(T) Trailer Axle: 32 kips LEF = 0.8905

 $(S) = single \ axle, (T) = Tandem, (3) = Triple \ Axles$

Traffic Loading • Design Life: 20 years (From Sheet P.01)

Standard Pavement Section

Vehicle Types	Current Traffic	% Increase	Design Traffic	ESAL Factor	Design ESAL
Passenger Cars	651	115%	5,465,145	0.00209	11,422
Light Trucks	0	115%	0	0.0686	0

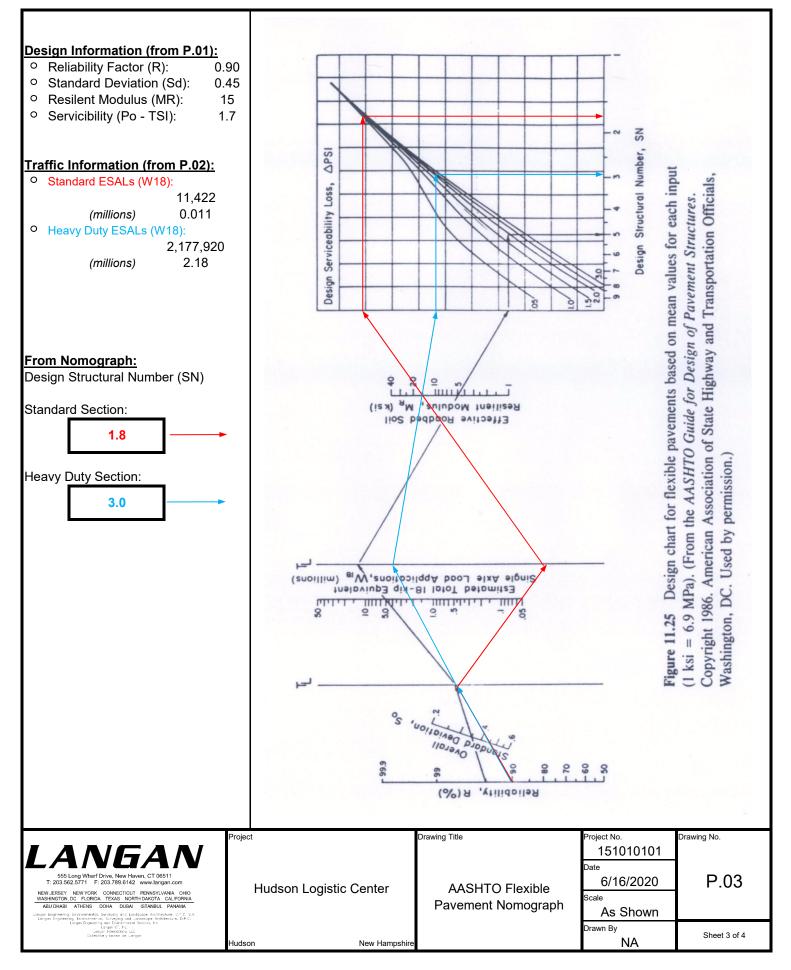
Standard Design ESAL: 11,422

Heavy Duty Pavement Section

Vehicle Types		Growth Factors	Design Traffic	ESAL Factor	Design ESAL
	054	4450/	5 405 445	0.00000	44.400
Passenger Cars	651	115%	5,465,145	0.00209	11,422
Light Trucks	0	115%	0	0.0686	0
Heavy Trucks	131	115%	1,099,745	1.97	2,166,498

Heavy Duty Design ESAL: 2,177,920

	Project	Drawing Title	Project No.	Drawing No.
LANGAN			151010101	
LAIVUAIV			Date	
555 Long Wharf Drive, New Haven, CT 06511 T: 203.562.5771 F: 203.789.6142 www.langan.com	Uudaan Lagistia Cantar		6/16/2020	P.02
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA	Hudson Logistic Center	ESAL Calculation	Scale	
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA Langar Engineering, Environmental, Surveying and Landsdape Architecture, 2,7.0, S.A. Langar Engineering, Environmental, Surveying and Landsdape Architecture, 0,7.0, S.A. Langar Engineering, Environmental, Surveying and Landsdape Architecture, D.P.C.			Not to Scale	
Langun Engineering and Enricon-mortal Services, Inc. Langua C. The Langua C. The Langua Marenationa LLC Collective V Inform as Langua			Drawn By	Chart 2 of 4
Company with the Conjun	Hudson New Hampshire		NA	Sheet 2 of 4



Flexible Pavement Section Calculation:

Standard Section:

Structural Number:

SN = D1(a1)+D2(a2)+D3(a3)

				()
		Thickness		
Material	Spec	(inch)	TDS	SN
Bituminuous Concrete Surface Course	Class 2	D1 2.0	a1 0.44	0.88
Bituminuous Concrete Binder Course	Class 1	D2 2.0	a2 0.44	0.88
Dense Graded Aggregate	Subbase	D3 6.0	a3 0.11	0.66

Calculated Structural Number for Section: 2.42

Check Calculated SN is > Design SN: OK

Design Light Duty Structural Number SN: 1.8 (from P.03)

Heavy Duty Section:

- iouvy Buly Coolion.		Thickness	Layer	T
Material	Spec	(inch)	Strength	SN
Bituminuous Concrete Surface Course	Class 2	D1 2.0	a1 0.44	0.88
Bituminuous Concrete Binder Course	Class 1	D2 3.0	a2 0.44	1.32
Dense Graded Aggregate	Subbase	D3 10.0	a3 0.11	1.10

Calculated Structural Number for Section: 3.30

Check Calculated SN is > Design SN: OK

Design Heavy Duty Structural Number SN: 3.0 (from P.03)

Minimum Pavement Section

		Thickness
Material	Spec	(inch)
Bituminuous Concrete (Total)		4.0
Dense Graded Aggregate	Subbase	6.0

	Project	Drawing Title	Project No.	Drawing No.
LANGAN			151010101	
			Date	
555 Long Wharf Drive, New Haven, CT 06511 T: 203.562.5771 F: 203.789.6142 www.langan.com	Hudoon Logistic Contor	Flexible Pavement Section	6/16/2020	P.04
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA	Hudson Logistic Center		Scale	
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.		Calculation	As Shown	
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. Langan Engineering and Environmental Serverus, Irc. Langan C.T. Irc. Langan Environmental C. Irc. Langan Environmental C. Langan Environment			Drawn By	
Collectively known as Langan	Hudson New Hampshire		NA	Sheet 4 of 4

APPENDIX I.2 RIGID PAVEMENT DESIGN SITE AREAS (LOTS A, B, C)



DESIGN SUMMARY REPORT FOR

JOINTED-PLAIN CONCRETE PAVEMENT (JPCP)

DATE CREATED:

Wed Sep 02 2020 17:37:26 GMT-0400 (Eastern Daylight Time)

Project Description

Project Name: Lot B - SD Owner: Zip Code:

Designer's Name: Route:

Project Description:

Design Summary

Doweled

Undoweled

Doweled

Undoweled

Recommended Design Thickness: Calculated Minimum Thickness:

5.00 in. 4.77 in. 5.00 in. 4.77 in. Maximum Joint Spacing:

8 ft.

8 ft.

Pavement Structure

SUBBASE

Calculated Composite K-Value of Substructure:

467 psi/in

Minimum Pavement Section: 5-inches of concrete over 4-inches of aggregate base





CONCRETE

Compressive Strength: 4500 psi Modulus of Elasticity: 4000000 psi

Calculated Flexural Strength: 627 psi

Edge Support: Yes
Macrofibers in Concrete: No

SUBGRADE

CBR: 10 %
Calculated MRSG Value 9,389 psi

Project Level

TRAFFIC

ACI 330 Traffic Spectrum A

Design Life:

Spectrum Type:

30 years

USER DEFINED TRAFFIC

Trucks Per Day: 46

Traffic Growth Rate %: 0 % per year
Directional Distribution: 100 %
Design Lane Distribution: 100 %

GLOBAL

Reliability: 95 % % Slabs Cracked at End of Design Life: 5 %

Avg Trucks/Day in Design Lane Over the Design Life: 46

Total Trucks in Design Lane Over the Design Life: 504,045

Design Method



DESIGN SUMMARY REPORT FOR

JOINTED-PLAIN CONCRETE PAVEMENT (JPCP)

DATE CREATED:

Mon Jul 13 2020 13:17:55 GMT-0400 (Eastern Daylight Time)

Project Description

Project Name: Lot B - HD Owner: Zip Code:

Designer's Name: Route:

Project Description:

Design Summary

Doweled L

Undoweled

Doweled

Undoweled

Recommended Design Thickness: Calculated Minimum Thickness:

5.75 in. 5.57 in. 5.75 in. 5.57 in.

Maximum Joint Spacing:

9 ft.

9 ft.

Pavement Structure

SUBBASE

Calculated Composite K-Value of Substructure:

490 psi/in

Layer Thickness



Minimum Pavement Section: 8-inches of concrete over 6-inches of aggregate base

CONCRETE

Compressive Strength: 4000 psi Modulus of Elasticity: 4000000 psi

Calculated Flexural Strength: 580 psi

Spectrum Type:

Edge Support:
Macrofibers in Concrete:

Yes No SUBGRADE

CBR: 10 %
Calculated MRSG Value 9,389 psi

Project Level

TRAFFIC

ACI 330 Traffic Spectrum D

Design Life: 30 years

USER DEFINED TRAFFIC

Trucks Per Day: 46

Traffic Growth Rate %: 0 % per year
Directional Distribution: 100 %
Design Lane Distribution: 100 %

GLOBAL

Reliability: 95 %

% Slabs Cracked at End of Design Life: 5 %

Avg Trucks/Day in Design Lane Over the Design Life: 46

Total Trucks in Design Lane Over the Design Life: 504,045

Design Method

APPENDIX I.3 FLEXIBLE PAVEMENT DESIGN ROADWAYS

Project Information:

Project Title: Hudson Logistic Center

Project Town: Hudson

Project State: New Hampshire

Client: Hudson Logistic Center

Project No.: 151010101

Performed By: NA **Date:** 6/16/2020

Location: Roadways (Walmart Blvd. & Green Meadow Drive)

Design Information:

Design Life: 20 years

Initial Servicibility (Po):

 Terminal Servicibility Index (TSI): 2.5

Servicibility (Po - TSI): 1.7

O Soil Description: FILL & SP/SM

SP/SM O USCS Symbol:

 California Bearing Ratio (CBR): 10

 Resilient Modulus (MR): 15000 PSI Reliability Factor (R):

Standard Deviation (Sd): 0.45

Direction Distribution Factor (Do): 1.00

Lane Distribution Factor (DI):

1.00

CBR Based on: Estimated Value

*MR = CBR*1.5005 <= CBR <= 10

*MR = 3000*CBR^0.65

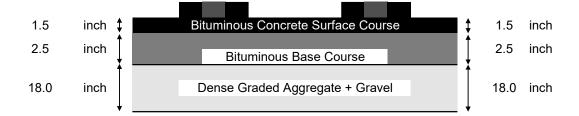
CBR > 10

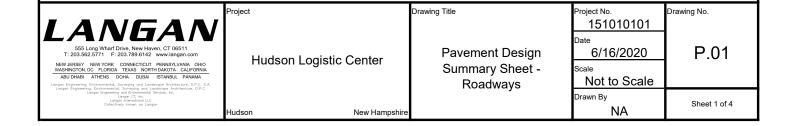
Summary of Results

Northern Access Roadway (Walmart Blvd.)

Southern Access Roadway (Green Meadow Drive)

Design ESAL: 2,173,340 Design ESAL: 1,684,723





Calculate Equivalent 18-kip Single Axle Loading (ESALs)

Equivalent Single Axle Loads per Vehicle

Load Equivalency
 Typical Car: Factors: Calculated ESALs

(S) Front Single Axle: 2 kips $\overline{\text{LEF} = 0.001045}$ (1 axle)(0.001045)+(1 axle)(0.001044 **0.00209** /car

(S) Rear Single Axle: 2 kips LEF = 0.001045

• Typical Delivery Van: Calculated ESALs

(S) Front Single Axle: 8 kips LEF = 0.0343 (1 axle)(0.0343)+(1 axle)(0.0343) = **0.0686 /truck**

(S) Truck Rear Axle: 8 kips LEF = 0.0343

• Typical Truck and Trailer (HS20): Calculated ESALs

(S) Front Single Axle: 12 kips LEF = 0.189 ((Front axle)(0.189)+(Rear axle)(0.8905)

(T) Truck Rear Axle: 32 kips LEF = 0.8905 +(Trailer Tandem)(0.8905)) = 1.97 /truck

(T) Trailer Axle: 32 kips LEF = 0.8905

(S) = single axle, (T) = Tandem, (3) = Triple Axles

Traffic Loading • Design Life: 20 years (From Sheet P.01)

Northern Access Roadway (Walmart Blvd.)

Vehicle Types	Current Traffic	% Increase	Design Traffic	ESAL Factor	Design ESAL
	000	4450/	0.074.050	0.00000	0.040
Passenger Cars	390	115%	3,274,050	0.00209	6,843
Light Trucks	0	115%	0	0.0686	0
Heavy Trucks	131	115%	1,099,745	1.97	2,166,498

Heavy Duty Design ESAL: 2,173,340

Southern Access Roadway (Green Meadown Drive)

Vehicle Types	Current Traffic	% Increase	Design Traffic	ESAL Factor	Design ESAL
Passenger Cars	941	115%	7,899,695	0.00209	16,510
Light Trucks	25	115%	209,875	0.0686	14,397
Heavy Trucks	100	115%	839,500	1.97	1,653,815

Heavy Duty Design ESAL: 1,684,723

	Project	Drawing Litle	Project No.	Drawing No.
LANGAN			151010101	
	Hudson Logistic Center	5041 0 1 1 1	Date	P.02
555 Long Wharf Drive, New Haven, CT 06511 T: 203.562.5771 F: 203.789.6142 www.langan.com			6/16/2020	
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA			Scale	
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.			Not to Scale	
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A. Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. Langan Engineering and Environmental Services, Inc.			Not to ocaic	
Langan CT, Inc. Langan International LLC			Drawn By	01 10 11
Collectively known as Langan	Hudson New Hampshire		NA	Sheet 2 of 4

Design Information (from P.01): O Reliability Factor (R): 0.90 Standard Deviation (Sd): 0.45 O Resilent Modulus (MR): 15 Servicibility (Po - TSI): 1.7 Design Structural Number, **DPSI** Traffic Information (from P.02): igure 11.25 Design chart for flexible pavements based on mean values for each input O Northern ESALs (W18) Association of State Highway and Transportation Officials, Loss, 2,173,340 (1 ksi = 6.9 MPa). (From the AASHTO Guide for Design of Pavement Structures. (millions) 2.173 Serviceability O Southern ESALs (W18): 1,684,723 (millions) 1.68 Design From Nomograph: Design Structural Number (SN) 20 ME (KSI) Resilient Modulus, N. Roadway (Walmart Blvd.): Effective Roadbed Soil 2.9 S. Roadway (Green Meadow Dr.): 2.9 American Estimoted Total 18/ ip Equivalent Single Axle Load Applications, Wig (millions) IIIII יויויויווווו Deviotion, 2 8 8 Reliability, R (%) Project Drawing Title roject No. Drawing No. 151010101 P.03 6/16/2020 **Hudson Logistic Center AASHTO Flexible** Pavement Nomograph As Shown Drawn By Sheet 3 of 4 NA New Hampshire

Flexible Pavement Section Calculation:

Northern Access Roadway (Walmart Blvd.) Section:

Structural Number:

SN = D1(a1)+D2(a2)+D3(a3)

		Thic	kness			
Material	Spec	(i	nch)		TDS	SN
Bituminuous Concrete Surface Course		D1	1.5	a1	0.44	0.66
Bituminuous Concrete Binder Course		D2	2.5	a2	0.44	1.10
Gravel		D3	6.0	а3	0.11	0.66
Dense Graded Aggregate	Subbase	D4	12.0	a4	0.11	1.32

Calculated Structural Number for Section: 3.74

Check Calculated SN is > Design SN: OK

Design Structural Number SN: 2.9 (from P.03)

Southern Access Roadway (Green Meadow Drive) Section:

		Inic	ckness		Layer	
Material	Spec	(iı	nch)	S	trength	SN
Bituminuous Concrete Surface Course		D1	1.5	a1	0.44	0.66
Bituminuous Concrete Binder Course		D2	2.5	a2	0.44	1.10
Gravel		D3	6.0	а3	0.11	0.66
Dense Graded Aggregate	Subbase	D4	12.0	a4	0.11	1.32

Calculated Structural Number for Section: 3.74

Check Calculated SN is > Design SN: OK

Design Structural Number SN: 2.9 (from P.03)

Minimum Pavement Section

		Thickness
Material	Spec	(inch)
Bituminuous Concrete (Total)		4.0
Gravel		6.0
Dense Graded Aggregate	Subbase	12.0

	Project	Drawing Title	Project No.	Drawing No.
LANGAN			151010101	
555 Long Wharf Drive, New Haven, CT 06511	Hudson Logistic Center	Flexible Pavement Section Calculation	Date	
T: 203.562.5771 F: 203.789.6142 www.langan.com			6/16/2020	P.04
NEW JERSEY NEW YORK CONNECTICUT PENNSYLVANIA OHIO WASHINGTON, DC FLORIDA TEXAS NORTH DAKOTA CALIFORNIA			Scale	
ABU DHABI ATHENS DOHA DUBAI ISTANBUL PANAMA Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A. Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.			As Shown	
Langan Engineering and Environmental Services, Inc. Langan CT, University of the Communication of LLC Langan International LLC			Drawn By	Sheet 4 of 4
Collectively known as Langan	Hudson New Hampshire		NA	Sneet 4 of 4