GEOTECHNICAL ENGINEERING STUDY LOT A

for

Hudson Logistics Center Hudson, New Hampshire

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EXECUTIVE SUMMARY

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 A within the overall development. The remaining two lots (Lot B and Lot C) are addressed in separate reports.

Existing grades on the 160 acre site generally slope down from the northeast to the west (about el +164 to +115). The design concept includes the construction of a distribution warehouse having a footprint of about 1,079,700 square feet (sf), a partial internal mezzanine, and a proposed finished floor elevation (FFE) of about el +142. Proposed site grades generally range from about el +111 to +146. 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 (116), test pits (49), observation wells (7), laboratory testing, and infiltration tests (6).

The general subsurface conditions across the entire lot consisted of a surficial layer of topsoil (about 2 to 24 inches thick), underlain by discontinuous layers of fill (about 2 to 8 feet thick), sand/silt (about 2 to up to 41 feet thick), glacial till (about 1 to up to 20 feet thick), weathered rock (top of about el +112 to +123), and bedrock (top of about el +96 to +151). Groundwater was encountered or observed across the site to slope down from east to west (about el +107 to +141). Within the proposed building footprint, bedrock was encountered from about el +96 to +124 and groundwater was encountered or observed from about el +116 to +138.

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, 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:

- Fill and buried topsoil encountered within the building footprint (two borings) will have to be removed and replaced with structural fill prior to foundation construction beneath footings.
- The natural sand is generally poorly graded and both the sand and glacial till materials have a fines contents ranging from 1% to 47%. Mixing the sand 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 4 to 30 feet below grade (about el +107 to +141).
 - 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 southwestern corner of the lot for up to 150,000 square feet of paved areas.
- Bedrock was encountered across the site from about 7 to 43 feet below grade (about el +97 to +151).
 - o Rock removal will be required for site areas to the north.
- 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.
- Potentially liquefiable soils were encountered in three borings beneath one of the proposed roadways. Additional study and explorations will be required to further assess these areas. Ground improvement or grouting methods may be required 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.



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INTRODUCTION

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



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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 A

Lot A is about 160 acres and is located on the northern half of the overall site. Site grades generally slope down from the northeast to the west (about el +164 to +115). High points (between about el +145 and +161) exist to the north, near Sagamore Bridge Road and at the southwest of the lot near the existing clubhouse parking lot. Elevations at the center and south parts of the lot typically vary between about el +130 and +140. Grades slope down along the western part of the side toward the Merrimack River from about el +142 to +115.

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 A

Table 1 details the proposed building information. An internal mezzanine will be constructed along the western edge and to the north within the building.



Proposed grades vary from about el +111 to +146. The proposed FFE is about el +142 with an about 4 foot drop to adjacent grades at the loading docks, where the pavement grades generally slope away from the building. Pavement areas vary between about el +130 and +143. Proposed infiltration basins are located to the northeast, west, and south of the proposed building (about el +111 to +135). The proposed site roadways (Walmart Blvd and Green Meadows Drive) vary between about el +131 and +146.

Table 1. Proposed Site Development

Proposed	Proposed Building		Estimated Grades Within The Proposed Building Footprint		Propose	ed Structur	al Loads
Stories (#)	Footprint / Mezzanine (SF)	Existing	Proposed FFE	Resulting Cuts & Fills	Mezzanine Area (kips)	Remaining Areas (kips)	Wall Loads (kips/foot)
One + one internal mezzanine	1,079,700 / 250,000	el +129 to +151	el +142	Cut = 9 Fill = 13	400 to 870	30 to 220	8 to 12 kips/foot

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			
Zone X (not shaded)	Western Edge: Zone X (not shaded), Zone X (shaded), & Zone AE (el. +111)		

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

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)

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/s-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.

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 3. Summary of Boring Subcontractors

Date Range	Drilling Companies	Drilling Equipment
	SoilTesting, Inc.	CME 550X ATV Rig, CME55 Truck-
	Somesting, mc.	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 Laboratories	CME75 Track Rig, (2) Geoprobe 7720DT
	Limited	CiviE75 Hack hig, (2) Geoptobe 7720DT

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

Table 4. Summary of Borings

	Summary of		Paring ID/a	Donth Dongs	Elevation Dange
Total	Subtotal	Boring	Boring ID's	Depth Range	Elevation Range
(#)	(#)	Locations		(ft)	(Bottom of Boring)
	62	Proposed Building Areas	A-B-BOR-02 to A-B-BOR-12, A-B-BOR-8A, A-B-BOR-14 to A-B-BOR-50, A-B-BOR-19A, A-B-BOR-20A, A-B-BOR-37A, A-B-BOR-101 to A-B-BOR-110	9 to 43	el +92 to +125
116	16	Proposed Roadway Areas	A-R-BOR-01 to A-R-BOR-09, A-R-BOR-12 to A-R-BOR-14, A-R-BOR-16 to A-R-BOR-19	10 to 35	el +100 to +144
	38	Proposed Site Areas	A-S-BOR-01 to A-S-BOR-31, A-S-BOR-33 to A-S-BOR-37, A-S-BOR-33A, A-S-BOR-36A	6 to 41	el +103 to +151

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	Test Pit ID's	Depth Range	Elevation Range
(#)	(#)	Locations		(ft)	(Bottom of Test Pit)
	19	Proposed Building Areas	A-B-TP-01 to A-B-TP-19	7 to 9	el +122 to +139
49	5	Proposed Roadway Areas	A-R-TP -02 to A-R-TP-04, A-R-TP-06, A-R-TP-07	7 to 9	el +122 to +139
	25	Proposed Site Areas	A-S-TP-01 to A-S-TP-25	7 to 9	el +105 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
(11)	A-B-BOR-17(OW)	16	el +114
	A-B-BOR-20(OW)	18	el +117
	A-B-BOR-34(OW)	20	el +112
7	A-B-BOR-37A(OW)	30	el +111
	A-B-BOR-40(OW)	17	el +128
	A-S-BOR-01(OW)	16	el +118
	A-S-BOR-19(OW)	19	el +132

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	18
Moisture	ASTM D-2216	18
Percent Passing No. 200	ASTM D-1140	7
Chlorides	ASTM D-512	4
Sulfates	ASTM D-516	4

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 24-inches	el +158 to +122	0 to 28	Loose	N/A	N/A
Fill	2 to 8	el +144 to +124	6 to 32	M. Dense	N/A	N/A
Sand/Silt	2 to up to 41	el +158 to +97	3 to Refusal ⁷	M. Dense	Sand: 1 to 47 Silt: 56 to 88	Sand: 2 to 19 Silt: 19 to 27
Glacial Till	1 to up to 20	el +152 to +96	10 to Refusal	V. Dense	6	17
Weathered Rock	1 to up to 9	el +123 to +112	38 to Refusal	V. Dense	N/A	N/A
Bedrock	See Table 10					

⁷ Refusal defined as a minimum of 50 blows per 6 inches.

<u>Topsoil</u> – A layer of topsoil was encountered in 103 borings and all test pit. The topsoil generally consists of brown to dark brown fine to medium sand with varying proportions of gravel, roots, and silt. In the remaining 13 borings, the surficial material was consistent with the fill or natural sand/silt material.

<u>Fill</u> – Below the topsoil, a layer of fill was encountered in eleven borings and one test pit. The fill is generally composed of an orangish brown to brown fine to medium sand with varying amounts of gravel, roots, debris, 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 four 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, had slight discoloration, and 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 45 borings. A summary of encountered bedrock is provided in Table 10. The bedrock consists of gray schist, 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 seven borings during our exploration. The REC and RQD of the rock core samples ranged from about 40% to 95% and 0% to 81%, respectively.



Table 10. Summary Bedrock Information

	Bedrock Depth					
Location	С	ored	Inferred			
	Depth (ft)	Elevation	Depth (ft)	Elevation		
Proposed Building Areas	22 to 43	el +97 to +123	12 to 38	el +96 to +124		
Proposed Roadway Areas	30	el +105	10 to 31	el +105 to +144		
Proposed Site Areas	Not Performed	Not Performed	7 to 20	el +116 to +151		

<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 V	Wells/Test Pits	Inferred in Borings			
	Depth (ft)	Elevation	Depth (ft)	Elevation		
Proposed Building Areas	8 to 20	el +120 to +123	4 to 30	el +116 to +138		
Proposed Roadway Areas	6	el +125	4 to 15	el +121 to +140		
Proposed Site Areas	5 to 8	el +123 to +130	4 to 15	el +107 to +141		

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
A-S-TP-01	136	7	el +129	27	Light brown fine SAND, trace silt
A-S-TP-02	133	5	el +128	29	Light brown fine SAND, trace silt
A-S-TP-09	133	2	el +131	51	Grayish brown fine-medium SAND, some silt, trace fine gravel
A-S-TP-15	137	5	el +132	219	Brown fine to medium SAND, trace silt
A-S-TP-21	115	3	el +112	23	Light brown SILT, some fine sand, trace fine gravel
A-S-TP-22	114	4	el +110	30	Light brown SILT, some fine sand

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

⁸ Exposure class from ACI 318-14.

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.

- Additional design and coordination work should be performed with respect to site underdrain systems.
- Areas of potentially liquefiable soils beneath roadway areas should be further explored and studied.
- 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.
- 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 footprint. We concluded that liquefaction need not be considered in the design of the building.

Though not seen pervasively throughout the site, potentially liquefiable soils were encountered beneath the southern main entrance drive in three borings (A-R-BOR-12, A-R-BOR-16, and A-R-



BOR-18). We recommend that these areas be further explored and studied confirm the extent of potentially liquefiable soils.

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 ¹⁰ :	S _s	0.238 g
Mapped Spectral Acceleration for 1-sec period ¹¹ :	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:	O _{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

At the on-set of the project, the team discussed the potential alternate to support the proposed mezzanine areas (i.e. higher load areas) on a shallow foundation system bearing on ground improvement with an allowable bearing pressure of 6,000 pounds per square foot (psf). As the



¹⁰ Value obtained from AT Council Hazards by Location as provided by the USGS.

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

design progressed and preliminary cost information was obtained Hillwood, the cost premium for ground improvement outweighed the cost savings versus the recommendations outlined below. Therefore, ground improvement is no longer being contemplated for the mezzanine area. If ground improvement is desired as the design progresses, we can provide supplemental recommendations.

The materials encountered at the anticipated footing elevation consist of fill, sand/silt or glacial till. The existing fill is not suitable for foundation support and should be removed and replaced as outlined below prior to footing construction as outlined here. The proposed structure and guard house can be supported on shallow foundations bearing on structural fill, sand/silt, compacted existing fill, or glacial till using an allowable bearing pressure of 3,000 psf. 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 here. The slab-on-grade supporting short-term loads over smaller areas (e.g., vehicle wheel loads)¹² 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.

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. 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, snow, roots, sod, and other deleterious matter. The vapor barrier should be coordinated with any 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

¹² "Engineering Bulletin, Modulus of Subgrade Reaction – Which One Should be Used?" by Structural Services, Inc. (8 April 2016).



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.

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 (western 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.

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 +116 to +138) are below the proposed top of slab elevation (el +143). As such, we don't expect permanent dewatering measures for the building at this time.

Site Areas

Groundwater was encountered to the west of the building above and within 4 feet of the proposed pavement and truck court grades for about 150,000 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		
Aled.	& 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 (NH DOT Item No. 304.3):	8.0 inches	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 Duty		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	#3 bar at 22-inch	#3 bar at 16-inch	#3 bar at 16-inch		
Each Way:	on-center	on-center	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 should be proofrolled with six overlapping coverages of a double-drum 1-ton walk-behind vibratory roller (such as a Bomag BW75 or equivalent).

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 & Ground Improvement

Within the proposed building footprint, granular fill soils were encountered in explorations A-B-BOR-32 and A-B-BOR-43 extending to about el +138 and +124, respectively. A discontinuous layer of buried topsoil was encountered below the granular fill at exploration A-B-BOR-32. A minimum of 3 feet of the miscellaneous fill should be removed. The buried topsoil should be removed in its entirety.

Within the foundation zone of influence (i.e. 1H to 1V downward projection from the edge of footing), the following materials should be completely removed. The resulting subgrade 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.

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.

To address the areas where potentially liquefiable soils were encountered beneath the roadways, we recommend that an allowance for ground improvement (stone columns, jet grouting, etc.) or be carried in the contractor bids.



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 +96 to +124. Based on a proposed finished floor elevation of el +143, 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 +105 to +151. Based on the current site grading, rock removal may be required to the north in the 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.

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 1% to 47%; therefore, 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 +107 to +141. Based on the proposed grades, we expect that groundwater will be encountered to the north and west of the proposed building. Temporary groundwater control in this area, and potentially throughout the site, will be required.



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 and any environmental requirements.

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.

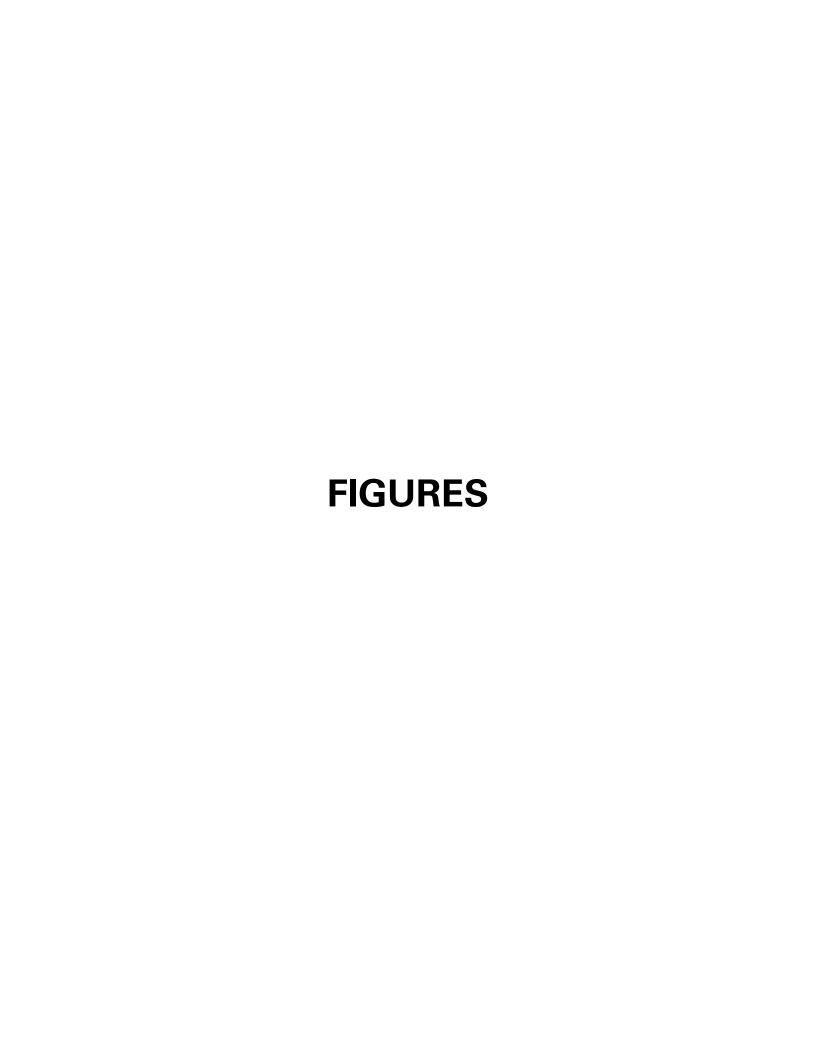
Any proposed changes in structures or their locations should be brought to Langan's attention as soon as possible so we can determine whether such changes affect our recommendations. Information on subsurface strata and groundwater levels shown on the logs represent conditions encountered only at the 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.

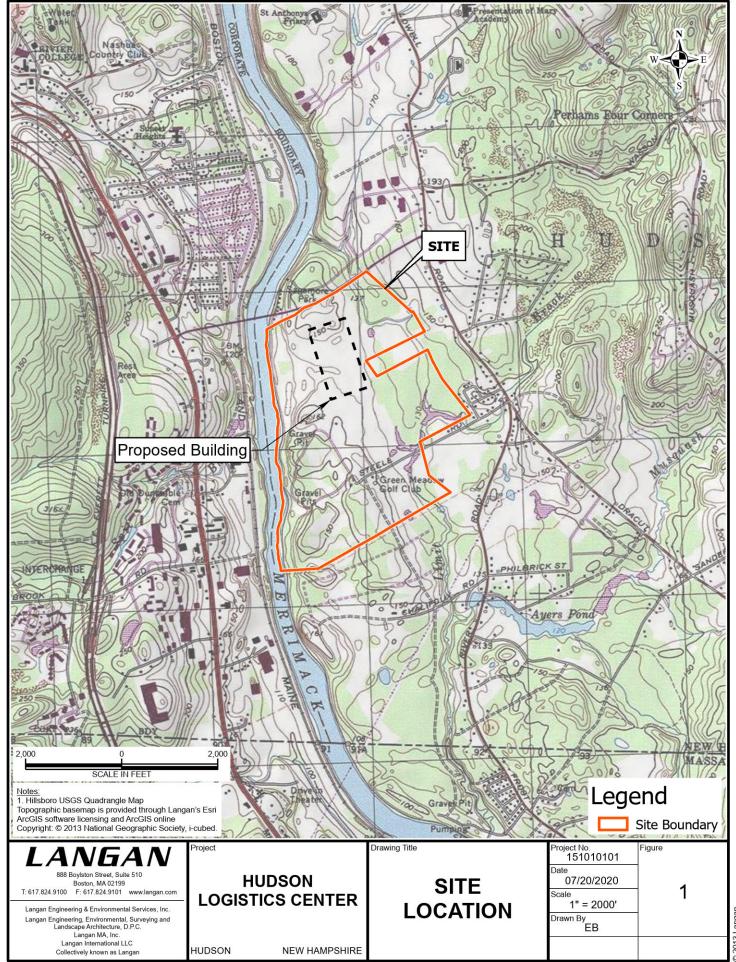
This report has been prepared to assist the owner, architect, and structural engineer in the design process and is only applicable to the design of the specific project identified. The information in this report cannot be used or depended on by engineers or contractors involved in evaluations or designs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

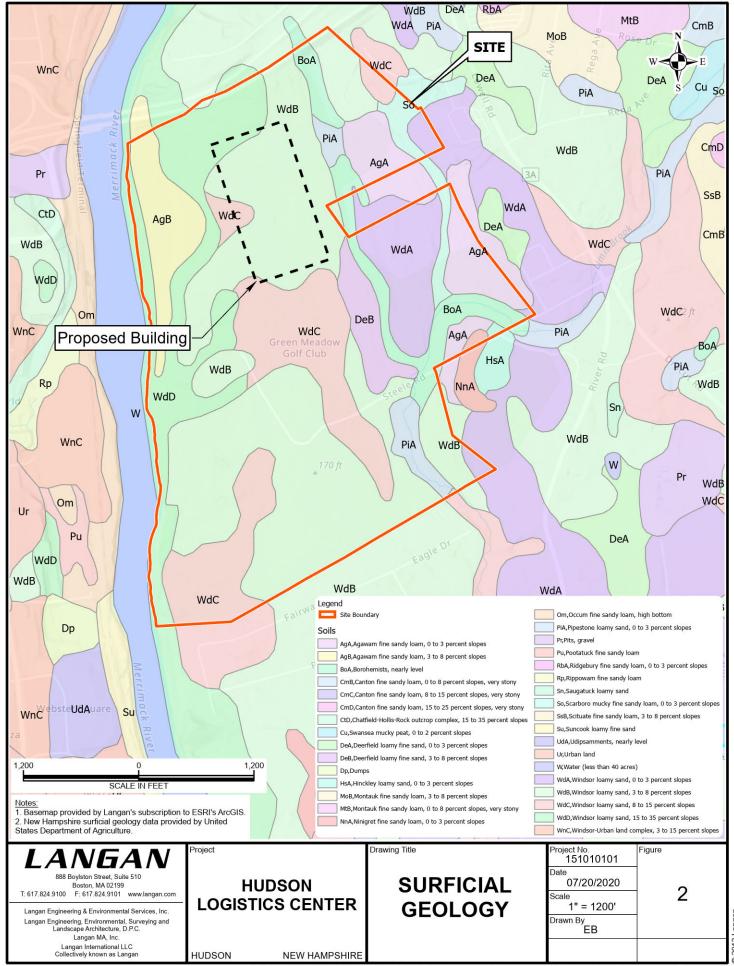
Environmental issues (such as permitting or potentially contaminated soil and groundwater) are outside the scope of this study and are addressed in a separate Langan evaluation.

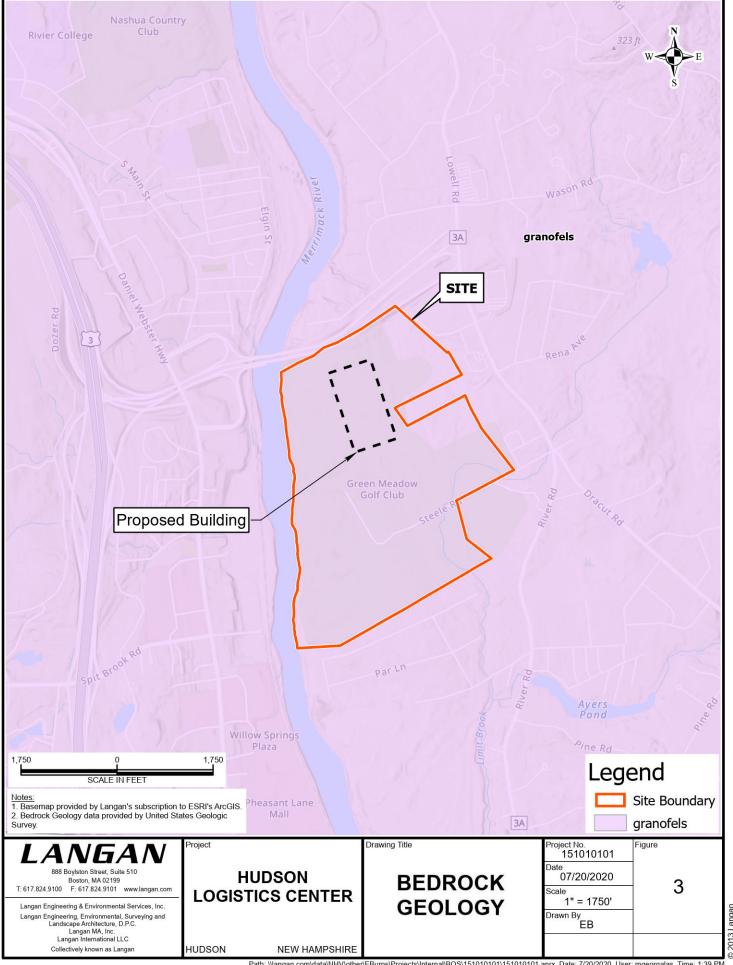
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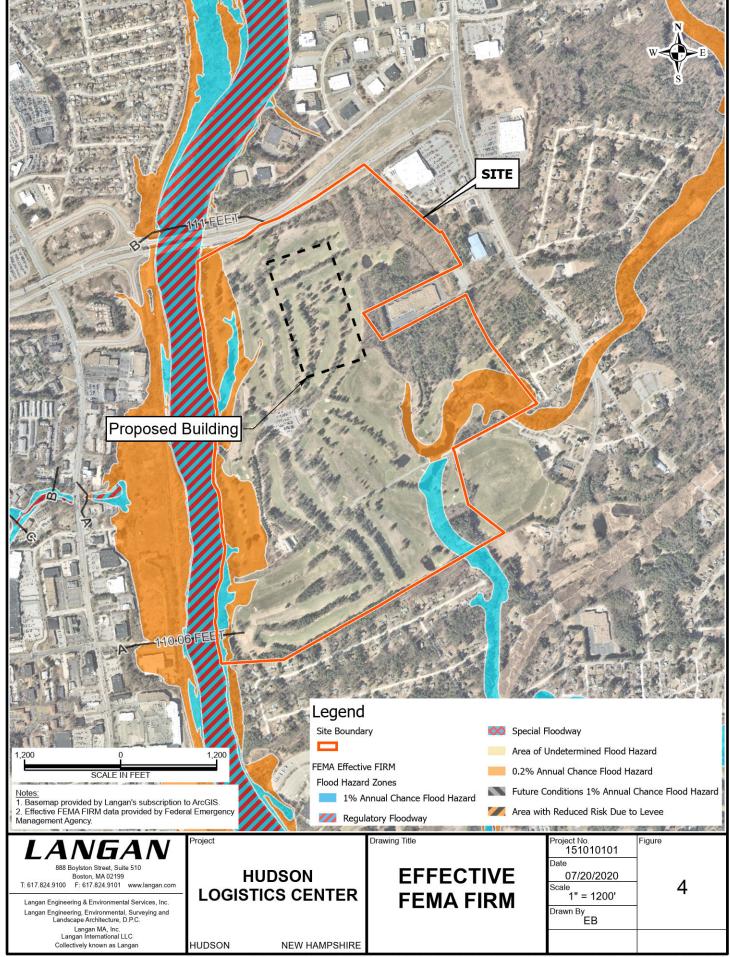


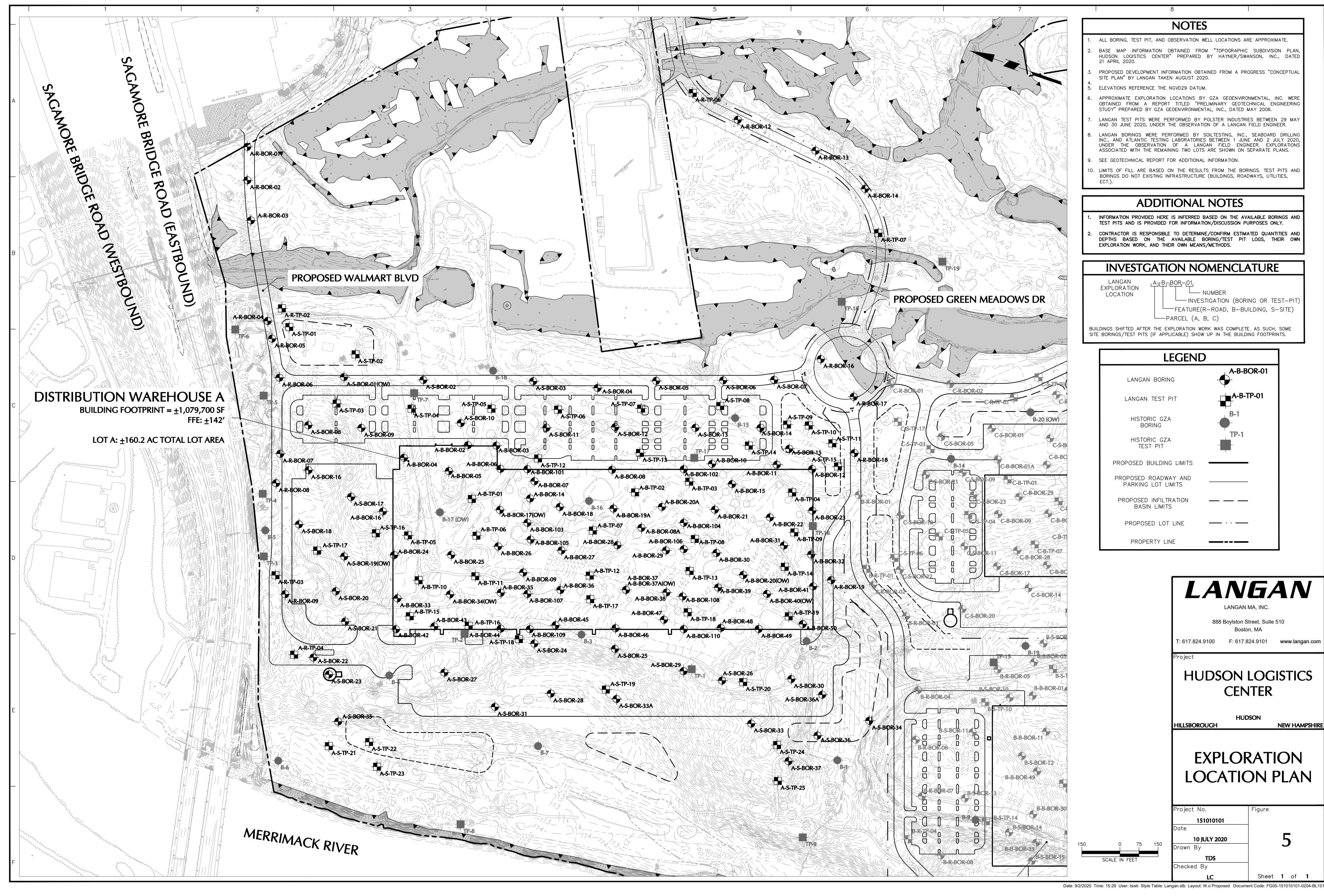


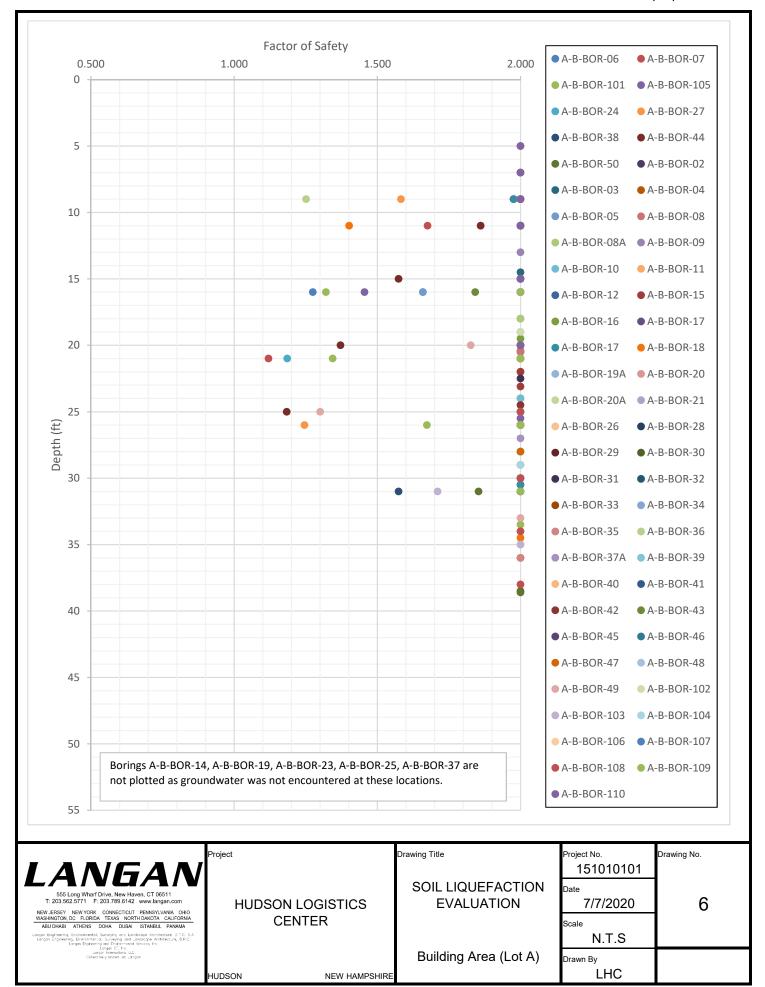


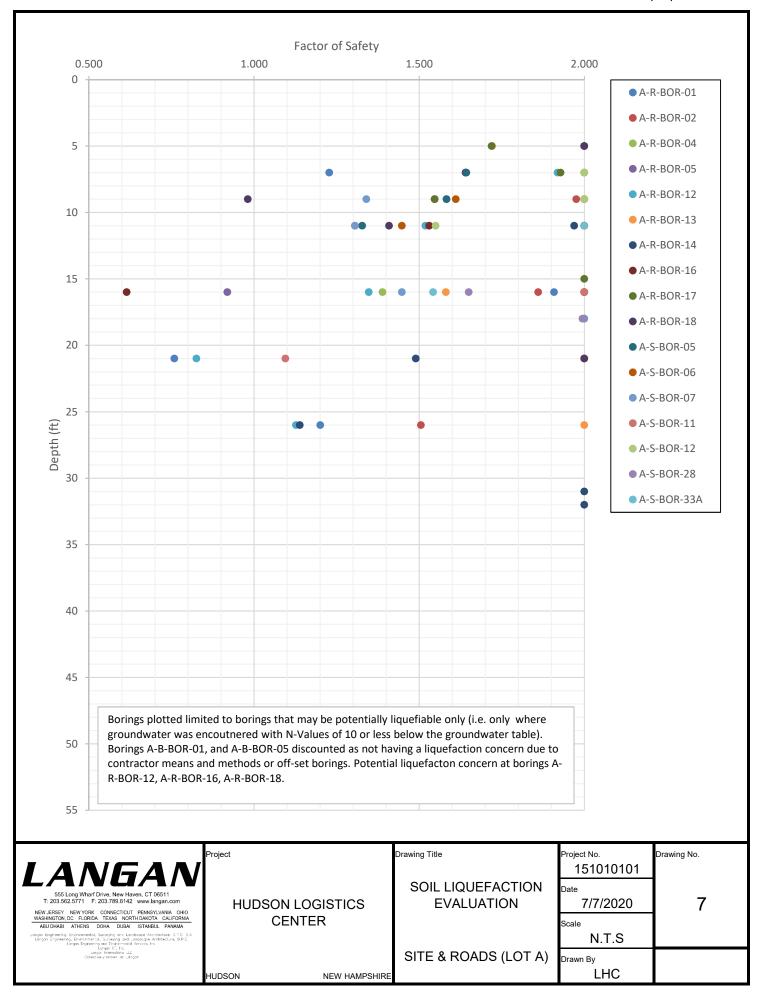




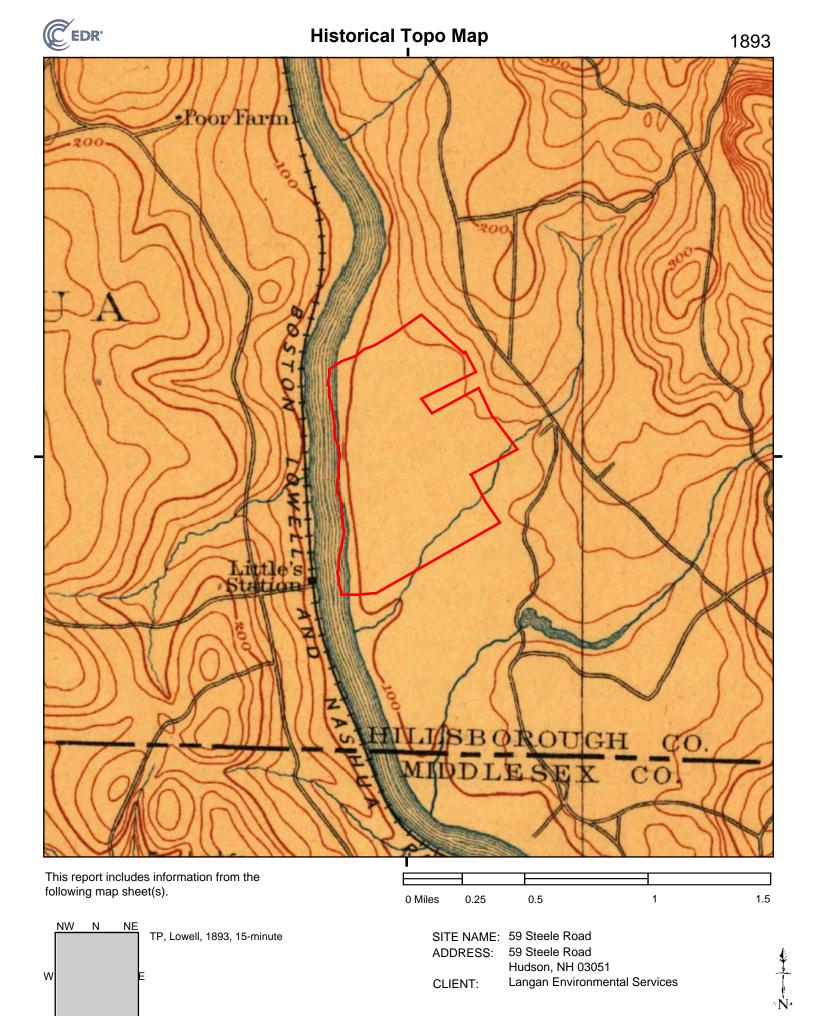


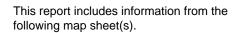


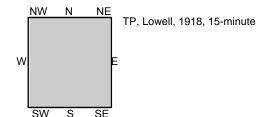




APPENDIX A HISTORIC INFORMATION







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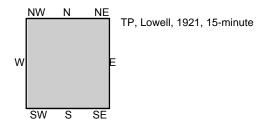
Hudson, NH 03051

Langan Environmental Services CLIENT:

page 20

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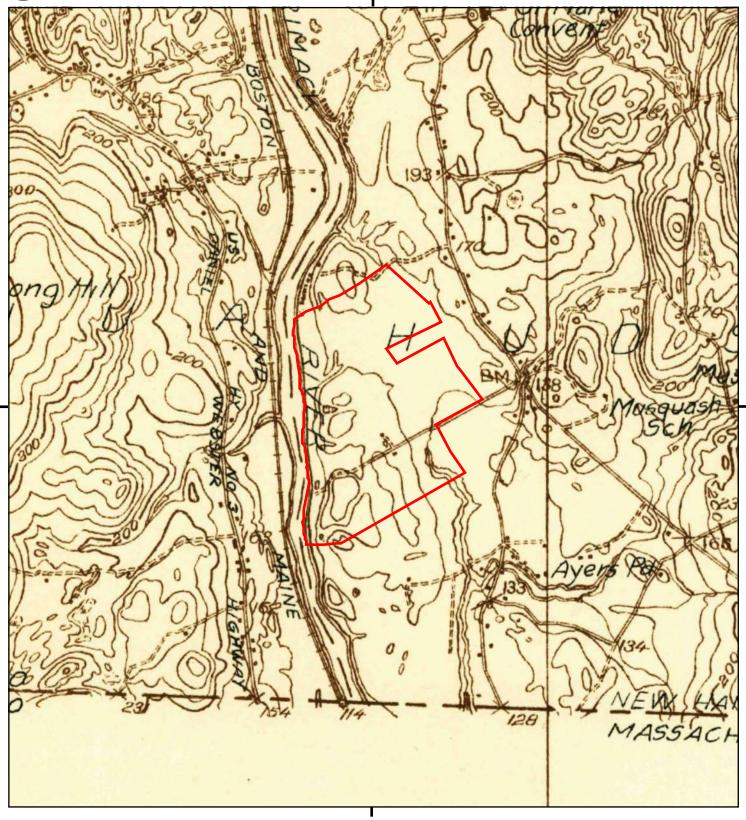
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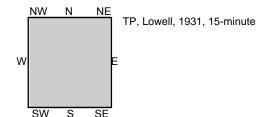
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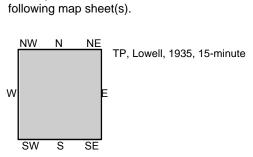


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Hudson, NH 03051



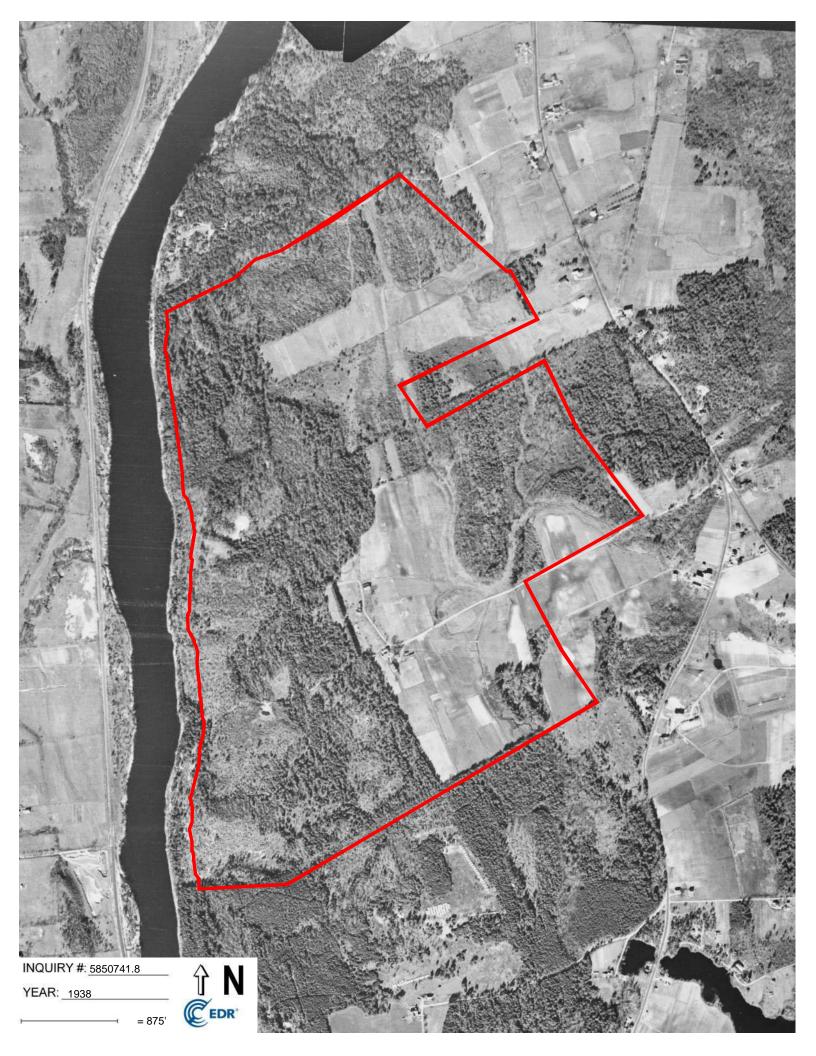


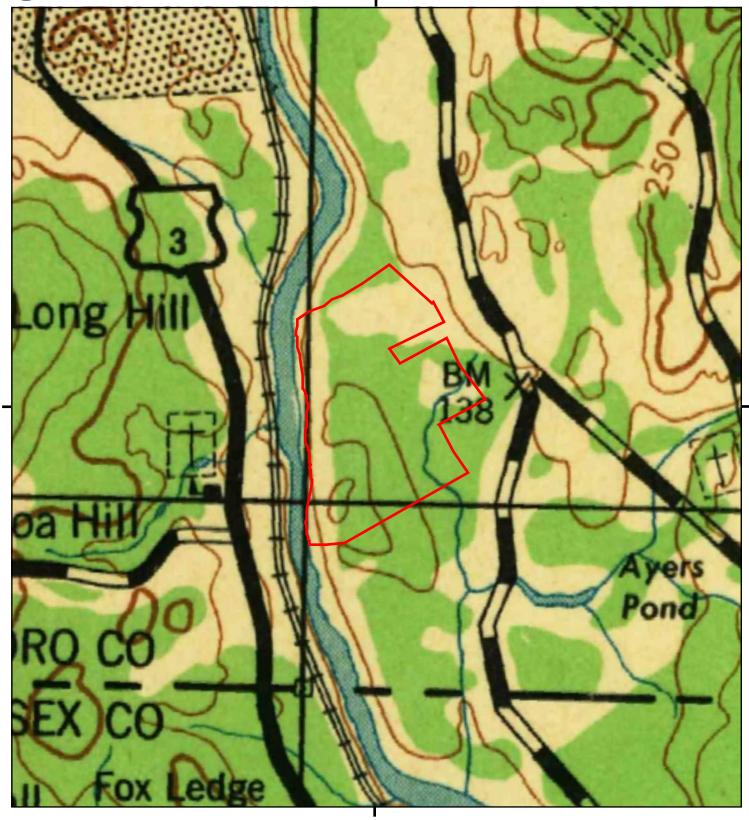
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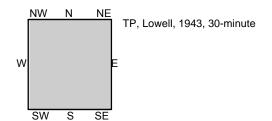
Hudson, NH 03051







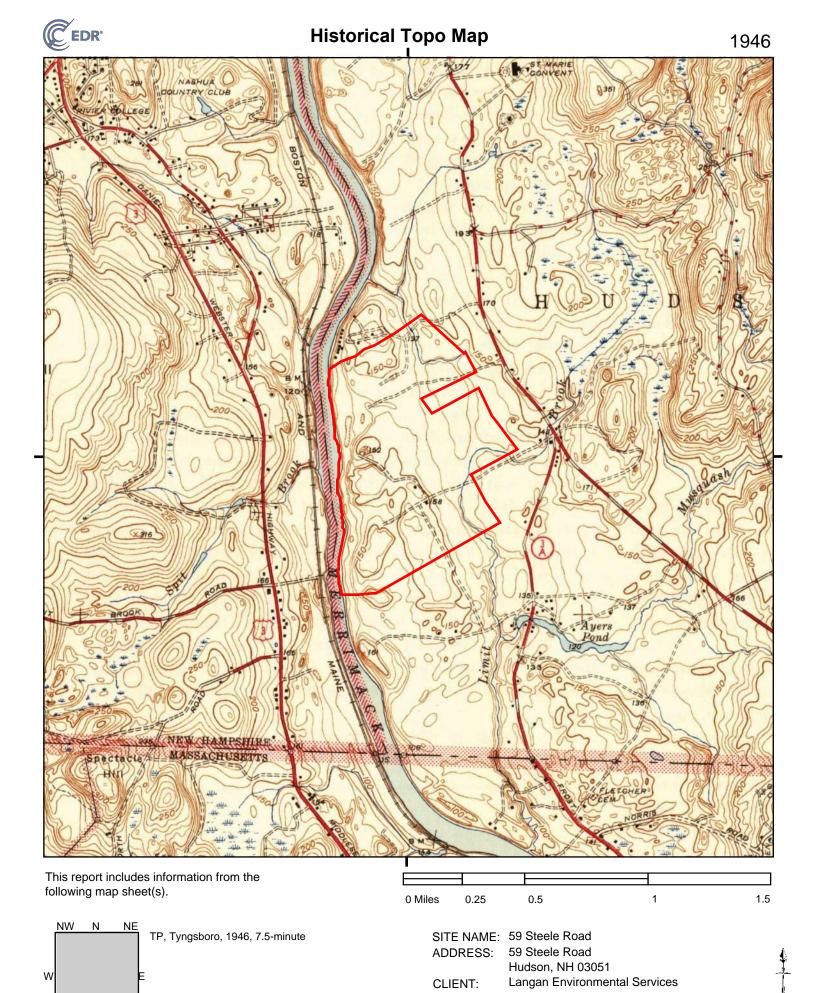
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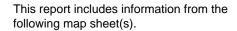
0 Miles 0.25 0.5 1 1.5

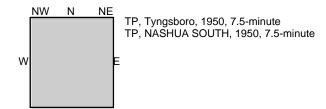
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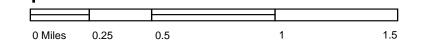
Hudson, NH 03051



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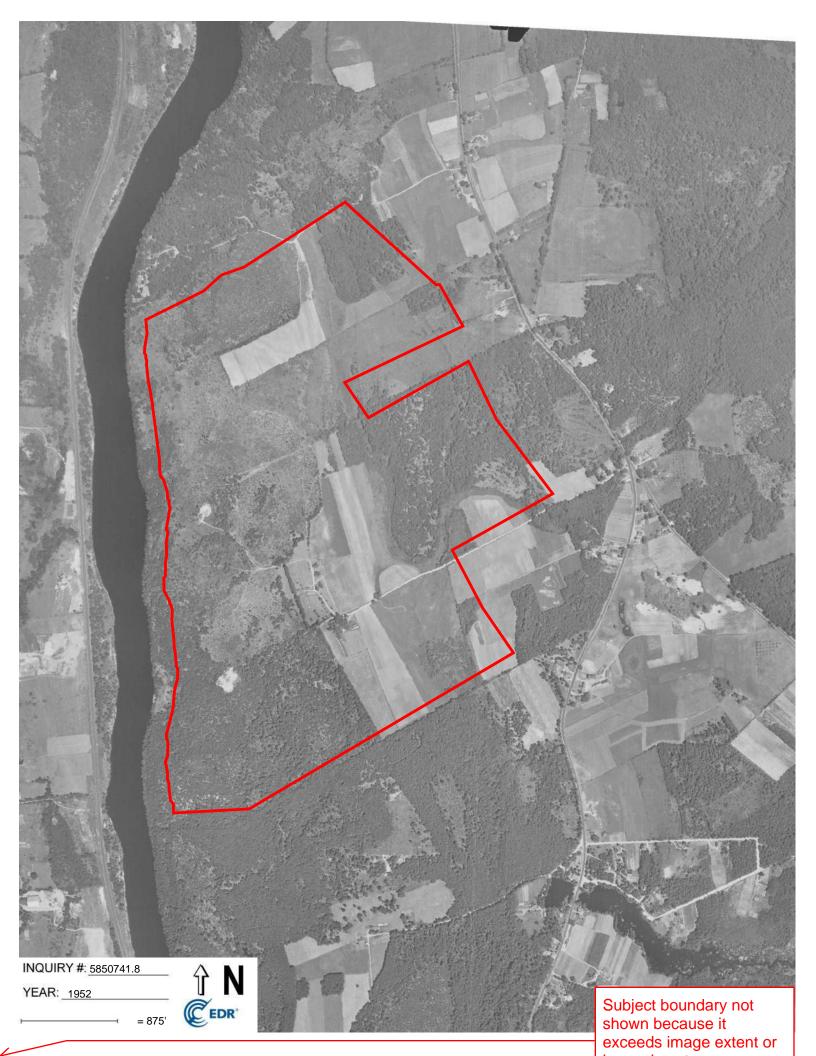


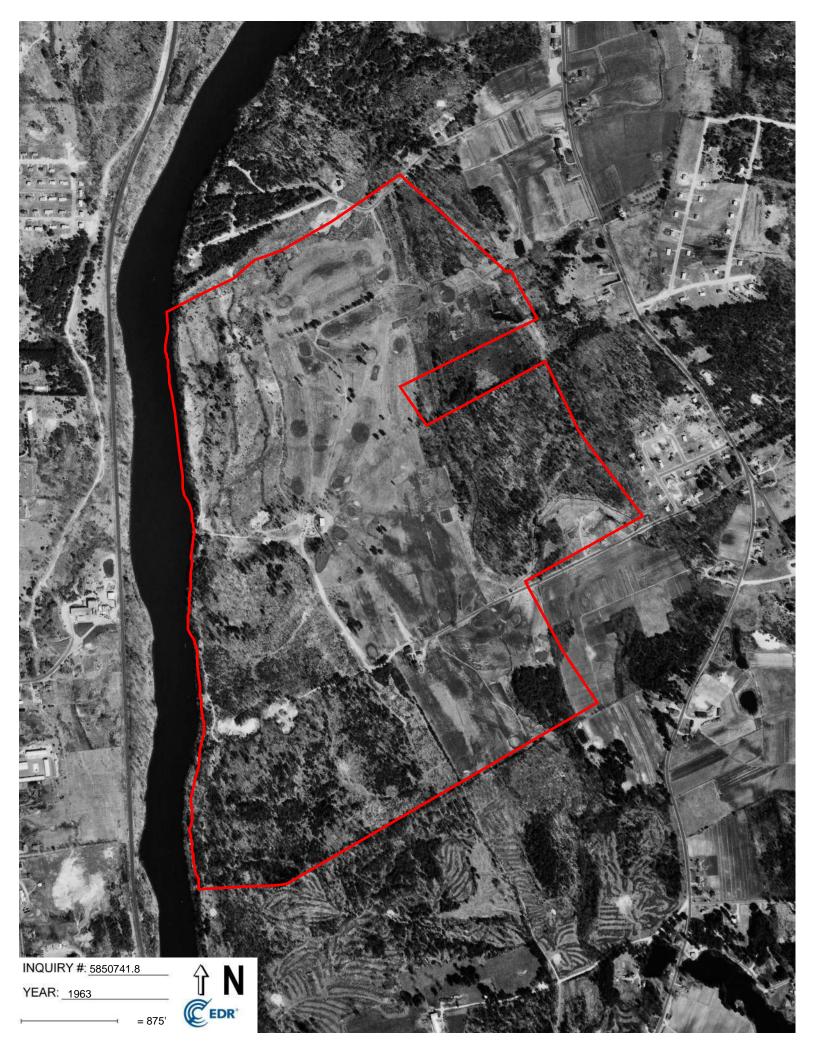


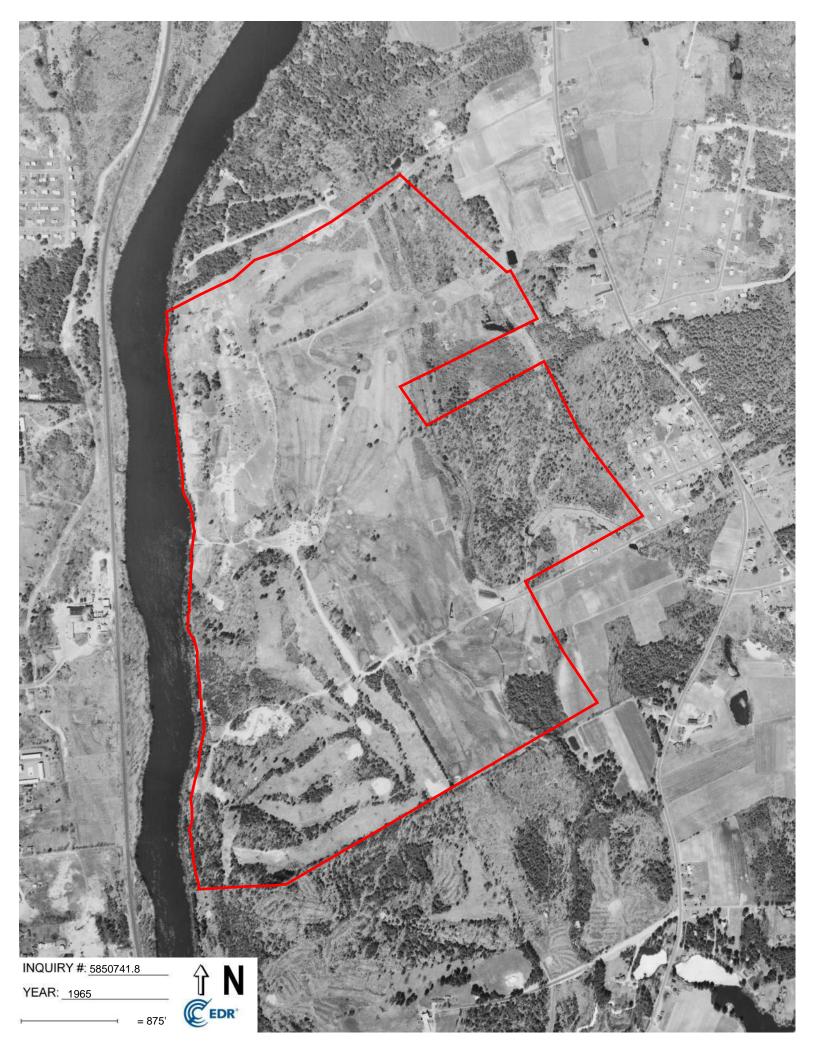
SITE NAME: 59 Steele Road ADDRESS: 59 Steele Road

Hudson, NH 03051

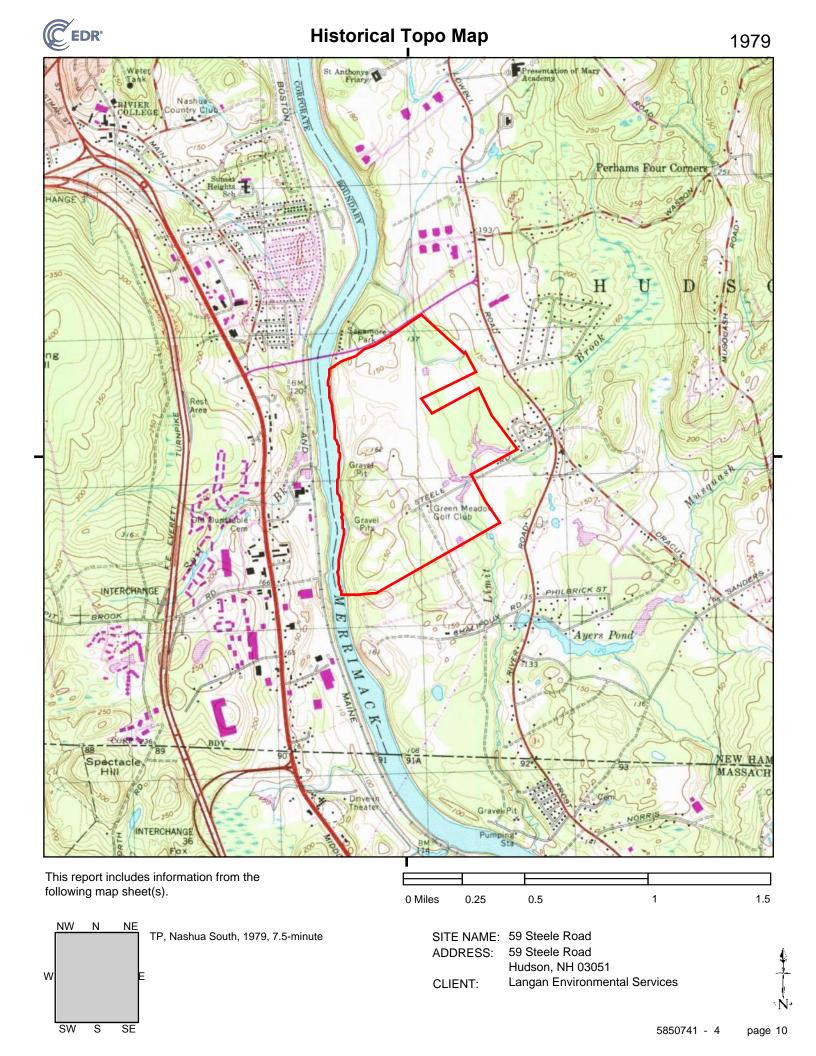


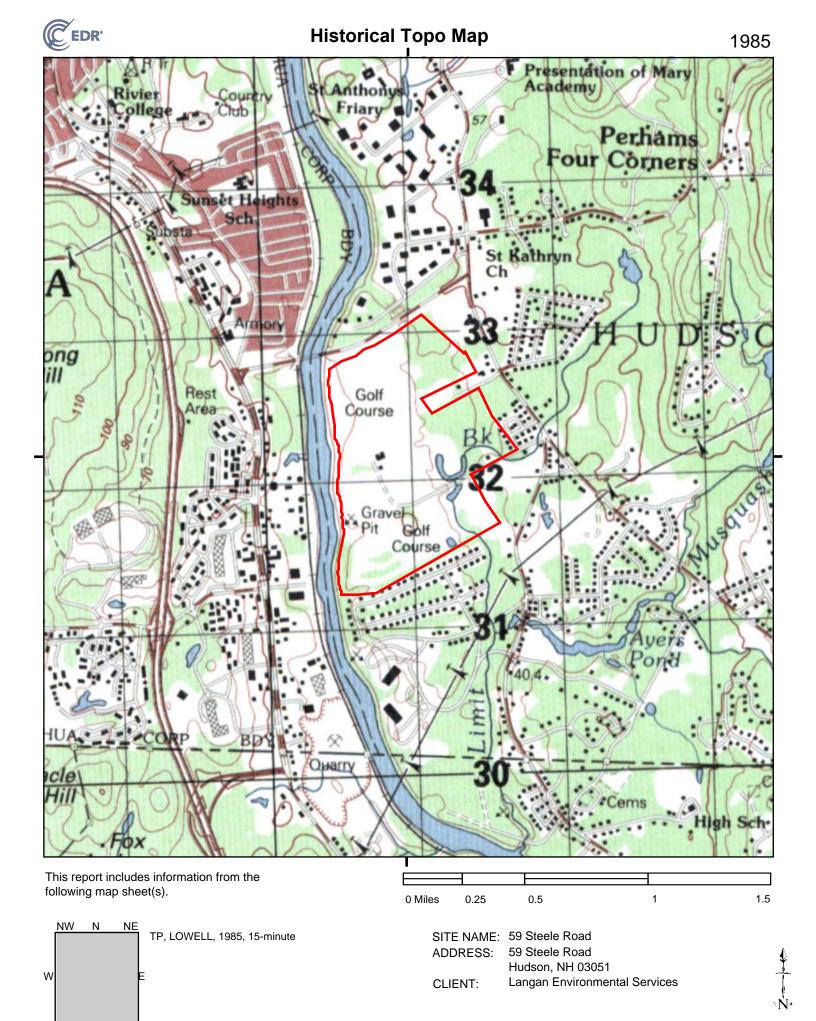




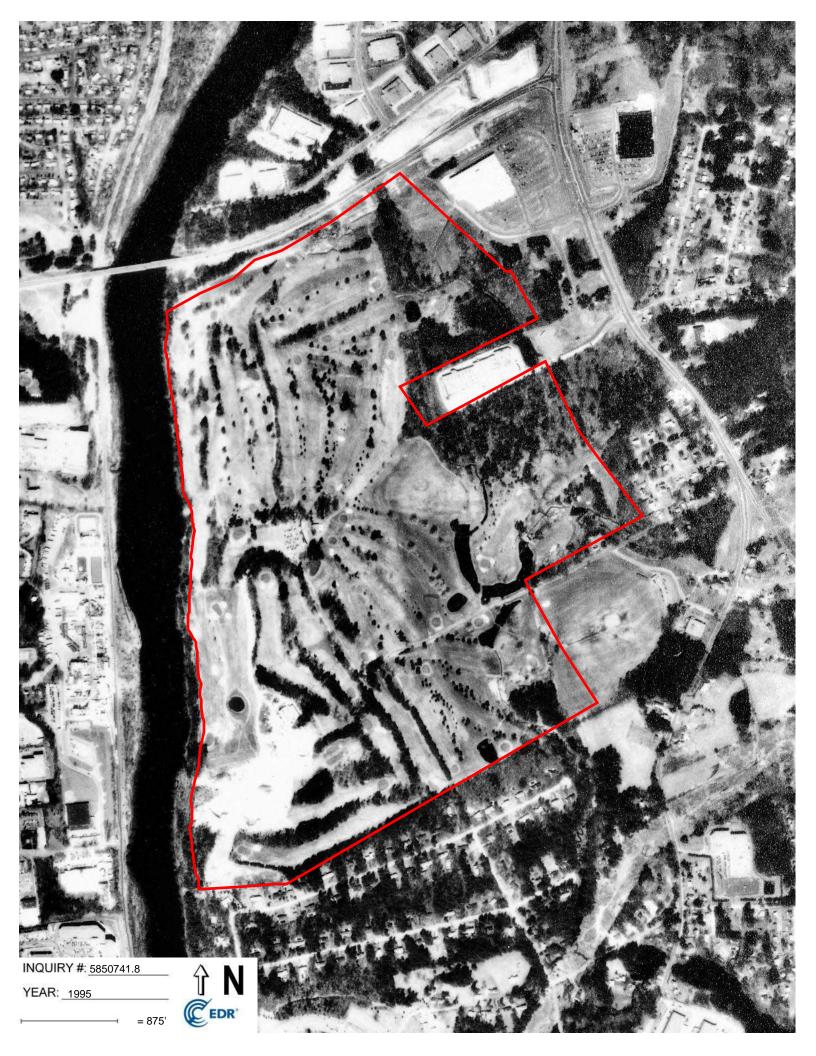


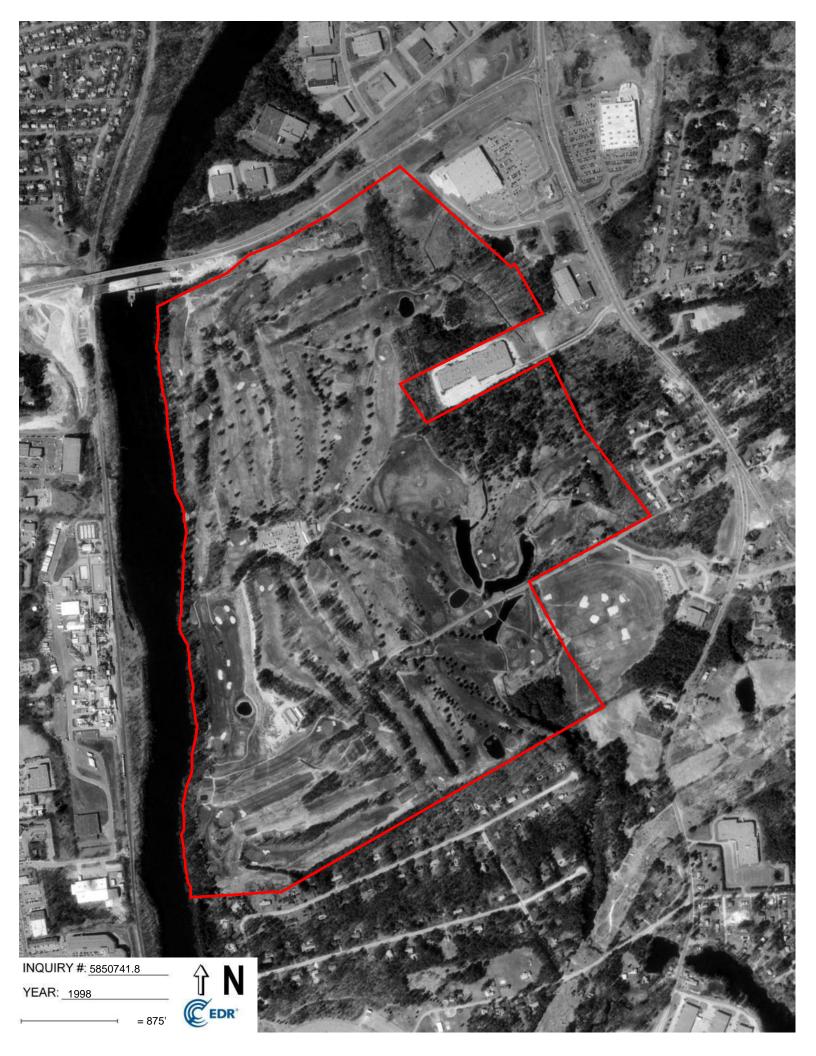




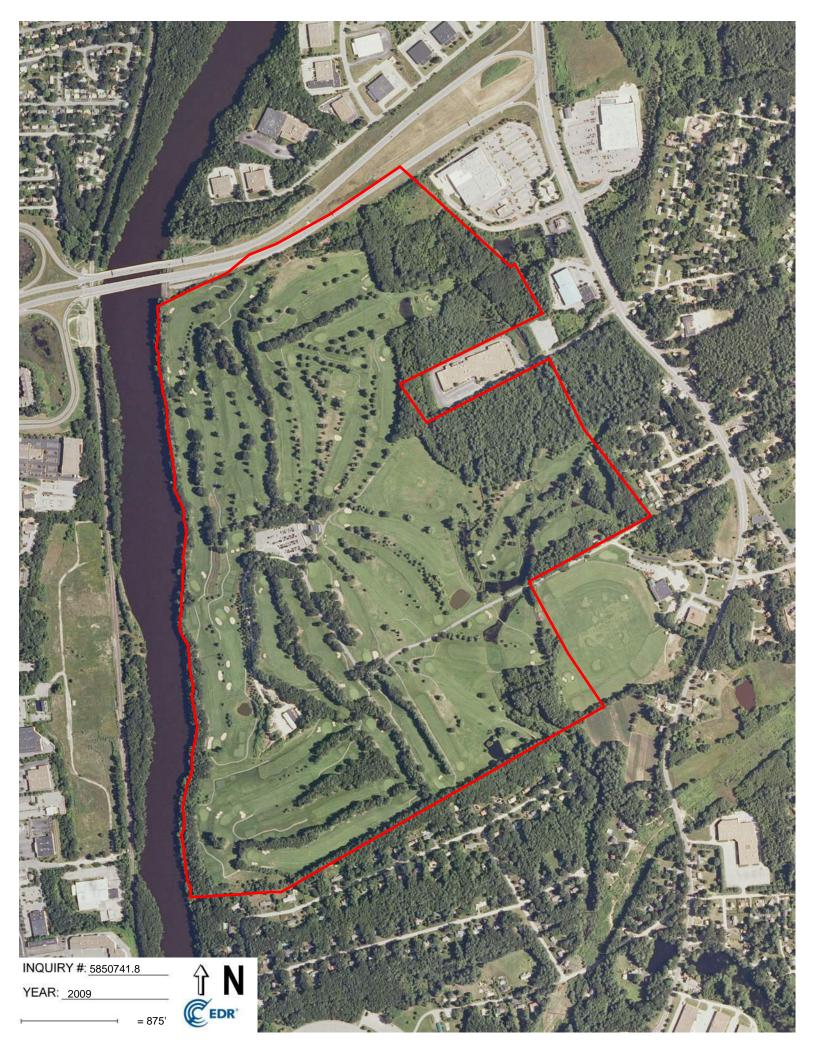


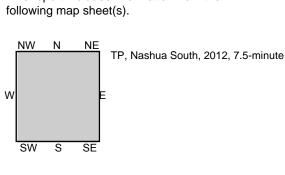












SITE NAME: 59 Steele Road ADDRESS: 59 Steele Road

Hudson, NH 03051

CLIENT: Langan Environmental Services

page 7





APPENDIX B AVAILABLE GEOTECHNICAL REPORT

TABLE 1 SUMMARY OF TEST BORINGS AND TEST PITS

River Place Hudson, New Hampshire

	Notes	Ground	Exploration	Groundwater ³		Thickness of Deposit (feet)							Ref	usal
Test Boring Designation ¹		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	1
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	-	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		0.7				>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 NE	
TP-17		135.8	7.0	NE		0.5			>5	1,5			NE	—
TP-17		126,5	6,5	5.4	121,1	0.3			-5	4.0		>2,5	NE NE	1
TP-19		120,3	7.0	NE	177.55	0.2				>6.2		- 4,3	NE NE	
TP-19 TP-20		133.2	7.0	4.8	128,4	0.8				>6.2			NE NE	1
TP-21		127.7	6.8	6.7	121.0	0.7				>6.3			NE NE	†
TP-21		146.3	7.0	NE	121.0	0.5	-	>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.

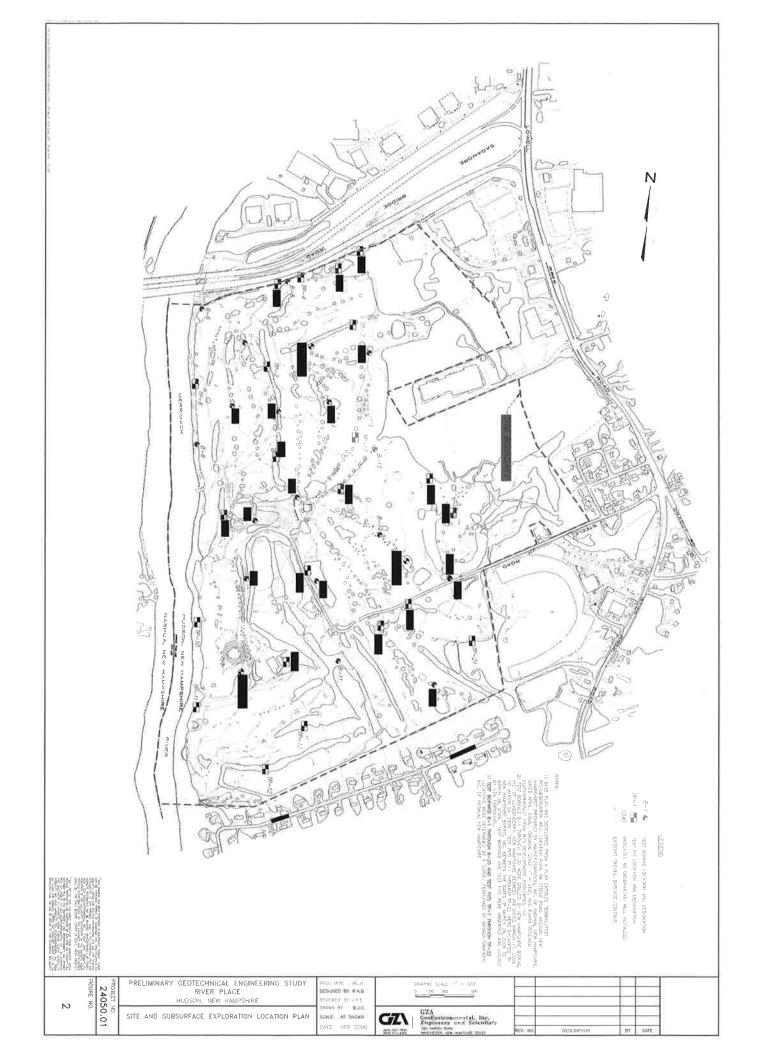
TABLE 2 SUMMARY OF LABORATORY TESTING

River Place Hudson, New Hampshire

Boring / Test Pit	Sample	Depth	Soil Description		Grain Size Distribution				
No.	No.	(feet)	**************************************	Gravel	Sand	Silt	Water 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	11	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
	74	Ğ	oEnviron	mental, Ind Scientists	e.		Hudson, N	ew Hampshi	ire		Page:	1 of _	1
											File No.:		
	tractor:			hire Boring Smith	I, Inc.	-	Auger/	Sampler			Check:		
	eman: _		Chri			Type	Casing HSA	SS	Date	GROUN Time	DWATER RE		Stab
	e Start/F			8-06 / 3-18-	-06			1.38 in	Date	mile	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	Feeder		.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-													
	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		SAND, some Grav		to coarse		- 91-4			
										- 1 1			
:-										- 1 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					
		14	22.0	19-47		SAND, trace Silt.							
2													
25-													
	S-6	3/ D	25.0- 25.3	100/4"	NA	No Recovery							
12			20.0										
S.													
-													
30-	S-7	2/	30.0-	100/2"	NA /	No Recovery - spo	on refugal	١,					
-	<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-			Antonio d	L	1- 0/05 :						
r I	ı. Soli s İsobu	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 refei " column " ^p	enced to a	an tes no
E	VOC	s detect	ed.				p=to poi i		rioju i	Data	Joigitiff. 1	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	re		Page:1			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	OUNC	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:	rich D50 Tru	ick Mounted Rig	l	_				
£_			1		Field	<u> </u>			,1		9	Fouin	ment Insta	llod
Depth (ft)	No.	Pen./ Rec.	Depth	Blows	Test		Sample		Stratum	۱	<u> </u>	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	3.3 n ASPHAL O.5 n TOPSOII	-	4		No	
-		12	2.0	9-8		medium SAND, littl		little Silt.	0.5 ft TOPSOII	4			quipment	
_						Topsoil S-1B: Medium den	ee light hro	wn fine to					Installed	
						medium SAND, littl	le Silt.	WII, IIIIC LO						
		1												
Ī	-	1												
5-	S-2	24/	5.0-	7-7	ND	Medium dense, ligh	nt brown, me	dium to coarse						
		12	7.0	9-10		SAND, little Gravel								
										- 1				
Ī														
Ī														
10-	S-3	24/	10.0-	7-7	ND	Medium dense, ligh	at brown fin	e to coarse						
-		14	12.0	7-6	'''	SAND, trace Silt.	it brown, inc	2 10 000130	SAND					
					l				SAND					
-														
15-	S-4	24/	15.0-	29-6	ND-	Medium dense, ligh	at 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 brown 5-	o to cooree						
	3-5	20	22.0	8-10	ן אינו	SAND, trace Silt.								
								·						
Ĭ						Bottom of boring at			22.0 ft					
)	1	I	I		1	surface. No refusa	u encountere	ea.	I					

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

· -		GZ	'A			River Place Boring No.: B-3 Hudson, New Hampshire Page: 1 of 1								
C	74	Ge	oEnviron	mental, Inc d Scientists	8	Hudson, New	Hudson, New Hampshire							
-	(_			File No.; 04.0024050.01 Check: RAB					
	tractor:			hire Boring	, Inc.	Auger/		000III						
				Smith s Melby		_ Casing _ Type: <u>HSA</u>	SS	Date	GROU		R READINGS n Casing	Stab		
Logged by: Chris Melby Date Start/Finish: 3-17-06 / 3-17-06 Boring Location: See Exploration Location Plan						I.D.: 2.25 in	1.38 in	Date	Time	Dept	Cashig	Juli		
						Hammer Wt.								
			ft Dat		IGVD	_ Hammer Fall:	30 in							
						Rig Type: Dietrich D	50							
_		San	pte Infor	mation										
Depth (ft)	No.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Sample Description & Classificatio	Stratum Desc.		Equipment Installed					
-	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, fi medium SAND, some Silt, trace Ro Subsoil	opsoil ine to	TOPSOIL 1.0 ft SUBSOIL 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				,		
. 5								8.5 ft — — —						
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	fine 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	ile organic compounds (VOCs) using letected are reported in parts per mile	llion (ppm) in	the "Field 1	est Da	por meter ta" colum	referenced to	o an cates no		
Water prese	r level rea	idings hav	are approxir e been mad urements w	e at times and	allon lines d under col	represent approximate boundary between so ditions stated. Fluctuations of groundwater n	nay occur due t	o other factors	idual. (han tho:	e Borir	ı g No. : B-3			

		GZ				River Place Boring No.: B-4								
C	74	Ge	oEnviron	mental, Inc d Scientists			Hudson, N	New Hampsh	ire		Page:1 of File No.:04.0024	1		
Contractor: New Hampshire Boring, Inc. Foreman: Ken Smith Logged by: Chris Melby Date Start/Finish: 3-17-06 / 3-17-06 Boring Location: See Exploration Location Plan					, Inc. -06 tion Plan	_ I.D.: . _ Hammer Wt.: .	Auger/ Casing Type: HSA SS I.D.: 2.25 in 1.38 in Hammer Wt.: 140 lb Hammer Fall: 30 in		Date	GROUNI Time	Check: RAI OWATER READINGS Depth Casing	B		
	_164					Rig Type:		ch D50						
Depth (ft)	No. Pen./ Depth Blows Test Data (ppm)					Descript	cation	Stratun Desc.	Remarks	Equipment Inst	Equipment Installed			
-	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	D, some Silt, lit inches): Light	ttle Organics. brown, SILT,	TOPSOII TOTE SUBSOII 2.511 SILT AND F SAND		No Equipment Installed			
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	and fine Sand. AND, trace Silt.	60 N					
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-				ę.	<	Bottom of boring surface. No refu	j at 22 feet bel isal encounter	ow ground ed.	22.0 ft					
REMARKS All determined the state of the stat	isob	samples utylene- is detec	in-air stan	eened for t	otal vola 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	or meter referenced to " column. "ND" indic	o an cates no		
All de Water prese	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	Depth Cashig	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			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	VOCs detected. M 2. Rock lodged in spoon tip. A 3. Auger encountered cobbles at 8 to 9 feet below ground surface.												
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	hpte 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.								
-														
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			
										- 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			
-	†					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 eu d oco	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														
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:	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	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	Α.				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.	Pen./ Rec. (in)	Depth (ft)	Blows (/6")	Field Test Data (ppm)	Descript	Sample tion & Classifi	ication	Stratum Desc.		Remarks	Equip	ment Inst	alled
-	S-1	24/ 12	0.0- 2.0	2-11 16-10	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			
		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 brown	n finn to mad	ium CAND					
-	0-2	12	7.0	9-6	ND	little Silt, trace Gra	n, me to med ivel	ium sano,					
						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					- -	Cutting	s/Backfill
15													
-7									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	
- 2.7	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	iight brown, Sil	LT, some, fine					
10-	S-3	24/ 20	10.0- 12.0	14-17 13-16	ND	Medium dense, medium SAND a	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 I 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	J-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/	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 de	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	10 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"		-1-0100						
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

		G2	Z.A			River Place	9			Boring No.:	B-	14
	7	Go	oEnviron	mental, In	c.	Hudson, New Han	npshire			Page:1	of _	_1_
		Lin	gineers an	nd Scientists	5					File No.: _0	4.00240	50.01
Con	tractor:	Ne		shire Boring	g, Inc.	Auger/				Check:	RAB	
				t Stone		Casing Samp			GROUN	DWATER REA	DINGS	
Log	ged by:		Chr	is Melby	N/2001	Type: HSA SS		Date	Time	Depth C	asing	Stab
				3-06 / 3-23		I.D.: 2.25 in 1.38						
Вол	ing Loca	ation:	see Explo	ration Loca	ation Plan	Hammer Wt.:140						
G\$	Elev.: _	133.3	π Dat	tum:	NGVD	Hammer Fall:30 ir	n					
		San	nple Infor	mation		Rig Type: Dietrich D50						
£.			r e		Field				l s			<u></u>
Depth (ft)	No.	Pen./ Rec.	Depth (ft)	Blows (/6")	Test Data	Sample Description & Classification		Stratum Desc.	Remarks	Equipme	nt Insta	lied
		(In)			(ppm)			Desc.	[윤			
	S-1	24/ 16	0.0- 2.0	2-2 3-5	ND	S-1A: Loose, dark brown, fine to medium SAND, some Organics, some Silt. Topso		TOPSOIL	1		No ipment	
_						S-1B: Loose, light brown, fine SAND and	Silt. 1.2	SUBSOIL			talled	
							2.5					
									- 11 1			
-7									11			
5-	S-2	24/	5.0-	5-6	ND	Modium donne light brown fire to accelium			- 1			
-	0-2	19	7.0	8-7	ן אט	Medium dense, light brown, fine to mediur SAND, little Silt. Wet	m					
- 5							- 1	SAND	- 1 1			
							- 1	orms	- 1 1			
1												
	S-3	24/	9.0-	4-6	ND	Medium dense, brown, fine to medium SA	MD		- 1 1			
10-		24	11.0	6-4	110	little Silt. Wet	AND,		11.1			
						-						
						Bottom of boring at 11 feet below ground surface. No refusal encountered.	11.0	0 ft	2			
						surface. No felusal encountered.			11			
1												
-									- 1 1			
15-												
					1				- 1			
=				i i	1							
-												
20-												
7												
+												
14												
25-												
7												
+												
1-												
-												
\perp												
_ 1	. Soil s	amples	were scre	ened for to	otal volati	e organic compounds (VOCs) using a TEI	Model 5	80B orga	nic vanor	meter referen	ced to s	an
R E M 2 A R K	ISODU	tylene-ir	i-air stand	fard. Total	VOCs de	tected are reported in parts per million (pp	om) in the	Field To	est Data	column. "ND	" indical	tes no
м ₂	VOC	s detecte	a.	to blow in/r								
A T		-				· · · · ·						
ŔĹ												
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	or 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.

	<i></i>	G2	7.4			Ri	ver Place		_	Boring No.	. B.	16
	7/	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 L	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				
	ļ								- 1 1			
١.	Į								- 1 1			
۱ 👡		1							- 1 1			
20~									- 1-1			
*	1											
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	of	1
		Hudson	n, New Hampsh	ire		File No.		04.002405	0.01
30 Harvey Road Ianchester, New Hamps	him 03102					Checked By	y:	RAB	
lanchester, New Hamps	nire U31U3		Excavation Eq	uinment					
ZA Rep.	C. Melby	Contractor	_	pshire Bori	ing, Inc.	Date		3/26	/2006
		Operator		latt Stone		Ground Ele	v.		l 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	000
Depth	So	oil Description			Sample	PID	Euggu	Boulders:	Mata
					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' —	SILT	Y 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:						1		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 TI 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.	e-in-air
Test Pit Plan	Boulder C Letter Designation Size R	lass ange Classification	Propos	tions 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			Time to	Depth to Groundwate
NORTH	EEs	sv			GR = Gray		I Ke dunig	(crours)	Olouliawate

C. Melby Sunny, 50s Dark brown, fi	Contractor Operator Make Capacity Soil Description	Komatsu 1.5 feet ³	uipment pshire Bori Aatt 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	Boulders: Count/ Class	/2006 5 feet 000 030 Note No.
C. Melby Sunny, 50s Dark brown, fi	Contractor Operator Make Capacity Soil Description	Excavation Eq New Ham N Komatsu 1.5 feet ³	uipment pshire Bori Aatt Stone Model Reach	PC 27 10 feet Sample No. SOIL S-1 0.9'	Date Ground Ele Time Starte Time Comp	v. d bleted Excav. Effort	3/26/ 138. 09 09 Boulders: Count/ Class	/2006 5 feet 200 230 Note No.
C. Melby Sunny, 50s Dark brown, fi	Contractor Operator Make Capacity Soil Description	New Ham Komatsu 1.5 feet ³	pshire Bori fatt Stone Model Reach	PC 27 10 feet Sample No. SOIL S-1 0.9'	Date Ground Ele Time Starte Time Comp PID Reading (ppm) ND	v. d bleted Excav. Effort	3/26/ 138 09 09 Boulders: Count/ Class	5 feet 2000 230 Note No.
C. Melby Sunny, 50s Dark brown, fi	Contractor Operator Make Capacity Soil Description	New Ham Komatsu 1.5 feet ³	pshire Bori fatt Stone Model Reach	PC 27 10 feet Sample No. SOIL S-1 0.9'	Ground Ele Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	Boulders: Count/ Class	5 feet 2000 230 Note No.
Sunny, 50s Dark brown, fi	Contractor Operator Make Capacity Soil Description	New Ham Komatsu 1.5 feet ³	pshire Bori fatt Stone Model Reach	PC 27 10 feet Sample No. SOIL S-1 0.9'	Ground Ele Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	Boulders: Count/ Class	5 feet 2000 230 Note No.
Sunny, 50s Dark brown, fi	Operator Make Capacity Soil Description	Komatsu 1.5 feet ³	Model Model Reach	PC 27 10 feet Sample No. SOIL S-1 0.9'	Ground Ele Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	Boulders: Count/ Class	5 feet 2000 230 Note No.
Dark brown, fi	Make Capacity Soil Description	Komatsu 1.5 feet ³	Model Reach	Sample No. SOIL S-1	Time Starte Time Comp PID Reading (ppm) ND	d eleted Excav. Effort	Boulders: Count/ Class	Note No.
	Soil Description	nie Organics, litti	•	Sample No.	PID Reading (ppm)	Excav. Effort	Boulders: Count/ Class	Note No.
	ine to medium SAND, lit		e Şilt, TOPS	No. SOIL S-1	Reading (ppm) ND	Effort E	Count/ Class	No.
	ine to medium SAND, lit		e Şilt. TOPS	No. SOIL S-1	Reading (ppm) ND	Effort E	Count/ Class	No.
			e Şilt, TOPS	OIL S-1	(ppm) ND	Effort E	Class	No.
			e Şilt, TOPS	0.9'	ND	Е		
				0.9'			2/1	II.
				S-2	ND	Е	ا ا	
							3/A.	
						Е	2/A	
						Е	10/ A	
						M	5/A 2/C	
SII	LTY SAND					M	3/A	
						D	2/C	
of test pit at 7 feet below	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		Elansed	Time to	Depth to
E M	Easy Moderate	SOME (SO.)	20 - 35% 35 - 50%	GR = Gray BN = Brow	'n			Groundwate
	of test pit at 7 feet belowed and for total volatile or ected are reported in particular total and the control of the control	Letter Designation A B B B B B B B B B B B B B B B B B B	of test pit at 7 feet below ground surface. No refusal encount med for total volatile organic compounds (VOCS) using a TRected are reported in parts per million (ppm) in the "Field Tested are reported in parts per mi	of test pit at 7 feet below ground surface. No refusal encountered med for total volatile organic compounds (VOCS) using a TEI Model 53 ected are reported in parts per million (ppm) in the "Field Test Data" co Letter Designation Size Range Classification A 6"-17" B 18"-36" C 36" and Larger LITTLE (LI.) 10-20% Excavation Effort SOME (SO.) 20-35% E	of test pit at 7 feet below ground surface. No refusal encountered and for total volatile organic compounds (VOCS) using a TEI Model 580b organic value or total volatile organic compounds (VOCS) using a TEI Model 580b organic value or total volatile organic value or total volatile organic value or total volatile organic value or total volatile organic value or total volatile organic value o	ned for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter reserved are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reserved are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reserved are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reserved are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no volumn are reported in parts per million (ppm) in th	ned for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to ected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS dete Boulder Class	ned for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutyler ected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected. Letter Designation Size Range Classification F = Fine M = Medium
-							man a material	
-----------------	---------------------------------------	---	-------------------------------------	--------------------------	-------------	--------------------------	--------------------------	-------------
52	eoEnvironmental, In ers/Scientists	c.	ī	River Place			Test Pit No. Page No.	: <u>-</u>
Enginee	as ocientists	-		, New Hampsh	ire		File No.	
	vey Road	_					Checked By	/:
Manche	ster, New Hampshir	e 03103		D 2 T				
GZA Re	en.	C. Melby	Contractor	Excavation Eq New Ham	•	rine. Inc.	Date	
GEAL IN	ър.	O. Meloj	Operator		fatt Stone		Ground Ele	v.
Weather	·	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte	
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp	leted
Depth			Soil Description			Sample	PID	
Бории			Son Duonprion			No.	Reading	Excav.
- 0 -							(ppm)	Effort
0.4		medium SAND, little vn, GRAVEL and med						E
- 11 -	Brown to right brov	vn, GRAVEL and med	ium to coarse SAND, i	trace Sitt,			-	
						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'}		•						
- 8,								
- 91								
- 10' -	Y							
- 11' -	Ę.							
- 12'	{							
- 13'	1							
Notes:	samples were coron	ned for total volatile or	ognic comnounds (VO	(CS) using a Ti	I Model 5	580h organic ve	nor meter re	ferenced to
standard	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 \	OCS dete
	Test Pit Plan	l .	ler Class	Propor	tions Used	45.2	obreviations	GROUN
1	8	٨	ze Range Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu	m	()
,		B C	18" - 36" 36" and Larger	LITTLE (LI.)	10 - 20%	C = Coarse		(X)
-	→	I	ation Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine		
	NORTH 	м	Easy Moderate	AND	35 - 50%	GR = Gray BN = Brow		
	1	D	Difficult			YEL = Yell	ow	

GZA GeoEn	vironmental, Inc.					Test Pit No.		TP-5	
Engineers/Sc	ientists		River Place			Page No.	t	of	1
20011	201	Hudso	n, New Hampsh	ire		File No.		04.0024050 RAB	0.01
380 Harvey F	New Hampshire 03103					Checked By	/· ₋	ICAD	
			Excavation Equ						
GZA Rep.	C. Melby	Contractor		oshire Boring	, Inc.	Date			/2006
Weather	Sunny, 50s	Operator Make	Komatsu	Iatt Stone Model I	PC 27	Ground Ele Time Starte			7 feet 005
weatter	Suinty, 505	Capacity	1.5 feet ³		0 feet	Time Comp			30
			1,5 1001						
Depth	Soil I	Description			Sample	PID		Boulders:	
					No.	Reading	Excav.	Count/	Note
- 0 -	6.115	A11.				(ppm)	Effort	Class	No,
Brow	vn, fine to coarse SAND, some Gravel, little	Silt.			S-1	ND	D	5/A	1
- 1' -	CANTO & C	D 43/DI					D	10/A	
- 2' -	SAND & G						D		
- 31 - Botto	om of test pit at 2.5 feet below ground surface	e. Refusal enc	countered on pro	bable Bedroc	k.	-			
- 4'									
- 5'					1				
- 6' -									
- _{7'} -									
- 8'									
– 9' –									
- 10'									
- 11' -									
- 12'									
- 13' —									
Notes:						1			<u> </u>
	oles were screened for total volatile organic c	ompounds (V	OCS) using a TE	I Model 580l	organic va	apor meter re	ferenced to	an isobutyler	e-in-air
standard. To	otal VOCS detected are reported in parts per	million (ppm)	in the "Field Te	st Data" colur	nn, "ND" i	ndicates no 🎙	VOCS dete	cted.	
	Pit Plan Boulder Class	Classifi 4:	Propor	tions Used	F = Fine	bbreviations	GROUN	DWATER	
		Classification - 17"	TRACE (TR.)	0 - 10%	M = Mediu		(_)	Encountered	
	B 18"	- 36" d Larger	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		(X)	Not Encountered	
	Excavation Effo	_	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to	Depth to
NORT	TH E Easy		AND	35 - 50%	GR = Gray BN = Brow		Keading	(Hours)	Groundwater
Volume = 1.1	cu, yd. MModers DDifficu		note.	پر <u>ەن - بر</u> ر	YEL = Yel				
GZN)	GZA GeoEnvironmental, Inc.	milOdiobelOd DO	74050 00\ 04 0074850	i Olifinino vielim:	Sa.				

GZA GeoEnvironme	ental Inc					Test Pit No		TP-5A	
Engineers/Scientists			River Place			Page No.	1	of	1
		Hudsor	n, New Hampsh	ire		File No.		04.002405	0.01
380 Harvey Road						Checked By	y:	RAB	
Manchester, New Ha	ampshire 03103		Excavation Equ	inmant					
GZA Rep.	C. Melby	Contractor	New Ham		ng Inc	Date		3/27	/2006
CZA Rep.	07110105	Operator		fatt Stone		Ground Ele	v.		.7 feet
Weather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte		10	005
		Capacity	1.5 feet ³	Reach	10 feet	Time Comp	oleted	10)30
5 4		0.110			T 6I-	I DID		Boulders:	·
Depth		Soil Description			Sample No.	PID Reading	Excav	Count/	Note
_					""	(ppm)	Effort	Class	No.
Gray, fine to	coarse SAND, some Silt, little	Gravel,			S-1	ND	М	5/A	1
- 1' -					3-1	ND	141	J/A	
1 1		a					D	3/C	
- 2'		SAND							
Bottom of te	est pit at 2.5 feet below ground s	urface. Refusal ence	ountered on pro	bable Bedr	rock				
- 3' — Doublin of to									
- 4'									
7									
- 5' -									
- 6' 							0.		
					1				
- 7' —									
- 8' -									
- 9'									
- 10'									
- 11' -	G.								
- 12'									
- 13'									
Notes:									
	e screened for total volatile orga CS detected are reported in parts								e-in-air
Similandi, 10th 10th	oo addoord me reported in part	s por minion (ppm) 1	11010 10.			indicates its		••••	
		~~~							
Test Pit Plan 8	Boulder Letter Designation Size	Class Range Classification	Proport	ions Used	F = Fine	obreviations	GROUN	DWATER	
1.5	A B	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	M = Medius C = Coarse	n	(X)	Encountered Not Encountered	
	- c	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium			P 4
MODELL	Excavati		SOME (SO.)	20 - 35%	F/C = Fine			Time to (Hours)	Depth to Groundwater
NORTH Volume = <u>1.1</u> cu. yd.		Moderate	AND	35 - 50%	GR = Gray BN = Brow				
	D	Difficult			YEL = Yell	uw	L		
CTA CA	Environmental Inc								

GZA GeoEnviro	nmental, Inc.					Test Pit No		TP-6	
Engineers/Scient	ists		River Place			Page No.	1		1
eau		Hudson	, New Hampsh	ire		File No.		04.002405	
380 Harvey Road						Checked By	y:	RAB	
Manchester, Nev	v Hampshire 03103		Excavation Eq	uinment					
GZA Rep.	C. Melby	Contractor	New Ham	_	ing. Inc.	Date		3/27	//2006
-		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	ine to medium SAND, little Silt, l	ittle Organics TOPS	OII.		_	(ppm)	Ellon	Class	NO,
Diown, i	me to medium print, mae om, i	ittie Organies. 1015	JIL .		S-1	ND	E		l
- 1' -						<b>—</b>			
Gray, fir	e to medium SAND, some Silt.						Е		
- 2' -					S-2	ND	Е		
- 3' —					3-2	140			
							E		
- 4' —									
							М	I/B	
- 5' —									
	SI	LTY SAND					E	I/B	
- 6' -							Б		
- 01							Е		
7'	Bottom of test pit at 7 feet below	v ground surface. No i	refusal encount	ered.					
- 8'									
•									
- 9' —									
10' -									
11' -									
12' -									
12									
13' -									
Notes:								l	
	were screened for total volatile or	zanic compounds (VO	CS) using a TF	El Model 58	80h organic va	mor meter re	ferenced to	an isobutyler	ne-in-air
	VOCS detected are reported in part								10 111 412
							¥2.		
Test Pit Pi 8		er Class te 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	
	c c	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very	ta analitira	,	1 - A1 THANKIIA16A	
	F	tion Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to	Depth to Groundwater
			- Table (				Kwatthuu		
NORTH Volume =3.1 cu. y	E	Easy Moderate	AND	35 - 50%	GR = Gray BN = Brow	n	Reading 5 mi	nutes	7 feet

GZA GeoEnvironmental,	Inc.					Test Pit No		TP-7	
Engineers/Scientists		I	River Place			Page No.	1	of	1
		Hudson	ı, New Hampsl	nire		File No.		04.002405	0.01
380 Harvey Road						Checked By	y:	RAB	
Manchester, New Hampsl	nire 03103		P P						
CZA Dan	C Malley		Excavation Eq	uipment pshire Bori	ing Ing	Data		2/17	/2006
GZA Rep.	C. Melby	Contractor Operator	·	Matt Stone	ing, inc.	Date Ground Ele	37		.5 feet
Weather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			110
-	7,1	Capacity	1.5 feet ³	Reach	10 feet	Time Comp			140
	5			•					
Depth	S	oil Description			Sample	PID		Boulders:	
					No.	Reading	Excav.	Count/	Note
- 0 - 5 11 - 6	P CAND Pol Cit	. 1: 0 1 0	ODGOIL		D.1	(ppm)	Effort	Class	No.
0.5	to medium SAND, little Sil- ray, fine SAND, little Silt.	t, little Organics. 1	OPSOIL		S-1	ND	E		l
- I, - Figur prown to gr	ay, fille SAND, fille Sile.				F 2	ND.	E		
- 2'					S-2	ND	E		
- 3'							Е		
- 4' —							Е		
					ia i		Е		
- 5'	SILT	Y SAND					Е		
- 6' -							Е		
- 7' Bottom	of test pit at 7 feet below g	round surface. No	refusal encoun	tered.					
- 8'									
- 9 ¹ -									
- 10' -									
- 11' -						-			
- 12' -									-
- 13' -									
	eened for total volatile organ etected are reported in parts								ne-in-air
Test Pit Plan	Boulder C	Class	Propo	rtions Used	A	bbreviations	GROUN	DWATER	
8	Letter Designation Size R	ange Classification 6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu C = Coarse	m	( ) (X)	Encountered Not Encountered	
1.5	1 5		COURT DATE	10 - 20%	V = Very		F '		
1.5	B C 3	6" and Larger	LITTLE (LI.)	10 - 2074		to medium		-	
NORTH Volume =		n Effort asy	SOME (SO.)	20 - 35%				Time to (Hours)	Depth to Groundwater

GZA GeoEnvironmen	tal, Inc.					Test Pit No.		TP-8	
ingineers/Scientists		1	River Place			Page No.	1	of	1
		Hudsor	ı, New Hampsh	ire		File No.		04.002405	0.01
80 Harvey Road	-					Checked By	:	RAB	
fanchester, New Har	npshire 03103								
17 A. D	C. Malha		Excavation Equ	-	ino ina	Data		3/27	/2006
SZA Rep.	C. Melby	Contractor Operator	New Ham	fatt Stone	ing, inc.	Date Ground Ele	, g		l feet
Veather	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			240
reatter	buiniy, 503	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, 1	ine to medium SAND, some				S-1	ND	Е		1
Light brown,	silt, some, fine Sand, trace R	oot Fibers. SUBSOIL	•						
					S-2	ND	Е		
2' —									
							E		
3' —									
							E		
4' —							E		
5'									
3 7	SI	LTY SAND					E		
6'									
							E		
7' - Bot	tom of test pit at 7 feet belov	u annual auriforna. No	andreal ananym	anad .		-			
Boi	iom of test pit at 7 feet belov	y ground surface. No	retusat encoun	ereu.					
· 8' —									
9' —									
101									
10' -									
11' -									
``									
12' -					1				
							*		
13' —					, ,		-		
/									
lotes:									
	screened for total volatile or	ganic compounds (VC	CS) using a TI	EI Model 5	80b organic va	por meter re	ferenced to	an isobutyler	e-in-air
tandard. Total VOC	S detected are reported in pa	rts per million (ppm) i	n the "Field Te	st Data" co	olumn. "ND" i	ndicates no V	OCS dete	cted.	
		les Class	1 5	dans Vis-1		Manufation -	Chora	DWATER	
Test Pit Plan 8		ier Class ze Range Classification	Jest Control	tions Used	F = Fine	bbreviations		DWATER	
1.5	A B	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	M = Mediu C = Coarse		(X)	Encountered Not Encountered	
	c	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very				
1	Excave	ation Effort	SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine	to coarse		Time to (Hours)	Depth to Groundwater
					lan a		I wearing	\$ \$ 1 EV 41 2 7	~ LOURING MARKET
NORTH /olume =3.1 cu. yd.		Easy Moderate	AND	35 - 50%	GR = Gray BN = Brow		-		

Hudson, New Hampshire   File No.   Checked By:   RAB	ZA GeoEnvironment	al, Inc.		Diver Di-			Test Pit No.		TP-9	
Arrey Road	gineers/Scientists	_		River Place	ire		Page No.		of 04 002405	0.01
Rep.   C, Melby   Contractor   New Hampshire Boring, Inc.   Date   3/21/2006	) Harvey Road	÷	1100301	i, ivew manipsi	iii ¢					0.01
Excavation Equipment   Excavation Equipment   Sunny, 50s   Operator   Nation   Sunny, 50s   Make   Nation   N		pshire 03103					Cilcolled Dy	-		
her Sunny, 50s Make Capacity 1.5 feet Make Capacity 1.5 feet Make Capacity 1.5 feet Make Capacity 1.5 feet Make Capacity 1.5 feet Model 1.6 feet Time Started 1.340  It Soil Description Sample No. Reading (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (ppm) Effort Class No. (p		* Haranica		Excavation Eq	uipment					
the Sunny, 50s Make Capacity 1.5 feet Paper   Reach   PC 27   Time Started   Time Completed   ZA Rep.	C, Melby	Contractor			ing, Inc.	Date		3/27	/2006	
Capacity 1.5 feet Reach 10 feet Time Completed 1340    Soil Description   Sample No.   Reading (ppm)   Excav.   Count/ Not Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Class No.   Cla			•							
Boulders: No. Reading (count/ (ppm)) Effort Class No. (ppm) Effort Class No. (ppm) (ppm) Effort Class No. (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (ppm) (p	eather	Sunny, 50s								
No.   Reading   Excav.   Count/   Note   No.   Reading   Excav.   Effort   Class   No.   No.   No.   Reading   Excav.   Effort   Class   No.			Capacity	1.5 feet	Reach	IV rect	Time Compi	eted		940
No.   Reading   Excav.   Count/   Note   No.   Reading   Excav.   Effort   Class   No.   No.   No.   Reading   Excav.   Effort   Class   No.	epth	-	Soil Description			Sample	PID		Boulders:	
Dark brown, fine to medium SAND, little Organics, little Silt. TOPSOIL  Light brown, fine SAND and Silt, trace Gravel.  S-2  RD  Effort Class No.  1  ND  E  E  E  E  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	-pa.							Excav.		Not
Dark brown, fine to medium SAND, little Organics, little Silt. TOPSOIL  Light brown, fine SAND and Silt, trace Gravel.  S-2  ND  E  Light brown, fine SAND and Silt, trace Gravel.  S-2  E  E  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	.						1	Effort	Class	No
Light brown, fine SAND and Silt, trace Gravel.  S-2  ND  E  E  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.		ne to medium SAND, little O	rganics, little Silt. 7	OPSOIL				E		,
S-2  ND  E  E  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	0.7'					0.7	עא	E		
S:2  E  E  SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	Light brown, f	ine SAND and Silt, trace Gra	vel.				ND	Е		
E  E  SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	, <u> </u>					S-2				
SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.								E		
SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	3' —							100		
SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.								E		
SILTY SAND  E  Bottom of test pit at 7 feet below ground surface. No refusal encountered.	4' —							E.		
Bottom of test pit at 7 feet below ground surface. No refusal encountered.	5' —									
Bottom of test pit at 7 feet below ground surface. No refusal encountered.	· –	SII.	TY SAND					Е		
Bottom of test pit at 7 feet below ground surface. No refusal encountered.	s' —	5.2								
								E		
	7' Rott	om of test nit at 7 feet helow	ground surface. No.	refusal encount	erad		<del></del>			
	Bott	ont of test pit at 7 feet below	ground surface. No	terusar encoun	ereu.					
	3' —									
	)' <del>-</del>									
	10' -									
	·									
	ur e						-			
	2' -						-			
	3' -									
	12' -									
										e-in-air
oil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air	ndard. Total VOCS	detected are reported in parts	s per million (ppm) i	n the "Field Te	st Data" co	lumn. "ND" i	ndicates no V	OCS dete	cted.	
oil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air				X						
oil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air	Test Pit Plan	Boulder	Class	Propor	tions Used	1 4	breviations	GROUN	DWATER	
oil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air ard. Total VOCS detected are reported in parts per million (ppm) in the "Field Test Data" column. "ND" indicates no VOCS detected.	6	Letter Designation Size	Range Classification	V-25-1		F = Fine				
bil samples were screened for total volatile organic compounds (VOCS) using a TEI Model 580b organic vapor meter referenced to an isobutylene-in-air ard. 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 Abbreviations GROUNDWATER F - Fine	1.5	В	18" - 36"			C = Coarse	m	(x)	Not Encountered	
Test Pit Plan  Letter Designation  A  B  Boulder Class  A  B  Boulder Class  A  B  Boulder Class  A  B  Boulder Class  Broportions Used  F - Fine  M - Medium  C - Coarse  (X) Not Encountered	<u></u>	С	36" and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	, m	T! .	<b>.</b>
Test Pit Plan  A Boulder Class  Boulder Class  Froportions Used  A Abbreviations  F = Fine  A G G - 17"  B 1.5  B 18" - 36"  C 36" and Larger  C 36" and Larger  LITTLE (LI.) 10 - 20%  FM = Electro partium  TEST Model 580b organic vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter referenced to an isobutylene-in-air vapor meter vapo				SOME (SO.)	20 - 35%	F/C = Fine				
Test Pit Plan  A 6°-17" B 1.5  B 18°-36° C 36" and Larger Excavation Effort  Excavation Effort  Boulder Class  C 36" and Larger  Excavation Effort  Boulder Class  Proportions Used  Abbreviations  Proportions Used  Abbreviations  F - Fine  M - Medium  C - Coarse  C 36" and Larger  Excavation Effort  B 0.18°-36"  C 36" and Larger  Excavation Effort  B 0.18°-36"  C 0.17"  B 0.18°-36"  C 0.20%  B 0.18°-36"  C 0.20%  B 0.18°-36"  C 0.20%  B 0.20°-35%  B 0.20°-3	NORTH			ANID	16 600/			-		_
Test Pit Plan  Letter Designation  A 6°-17"  B 1.5  B 18°-36°  C 36" and Larger  Excavation Effort.  Excav	umc = 2.3 cu, yd.	Jy1	Moderate	MINU	33 - 30%	DIV = BIOW	11	and the second		

001.0	7 1 11						Tr. 4 D's N.		TP-10	
	eoEnvironmental, Inc.			n' bl			Test Pit No.	-		-
Enginee	rs/Scientists	<del>-</del>		River Place	1		Page No.		of 04.002405	0.01
200 11	n and		Hudson	n, New Hampsh	ire		File No.		04.002403 RAB	0.01
	vey Road	02102					Checked By	/:	KAD	
Manche	ster, New Hampshire	03103		Excavation Equ	inment					
GZA Re	en.	C. Melby	Contractor	_	oshire Boring,	Inc	Date		3/27	/2006
U2A 10		C. Micioy	Operator		latt Stone	THO.	Ground Ele	v		0 feet
Weather	. 9	Sunny, 50s	Make	Komatsu		C 27	Time Starte			345
			Capacity	1.5 feet ³		0 feet	Time Comp			105
			, ,	110.1001	-		•			
Depth		Soil	Description			Sample	PID		Boulders:	
						No.	Reading	Excav,	Count/	Note
- 0 -							(ppm)	Effort	Class	No.
		edium SAND, some Silt, l				S-1	ND	Е		1
[	Light brown, SILT, so	ome fine Sand.	SU	BSOIL			110	L		·
÷ 1' =						S-2	ND	E		
- 2' -										
-								Е		
- 3' -										
								Е		
- 4' -										
							2	E		
- 5' -										
								Е		
- 6' -		SILTY	SAND					Г		
-, -								E		
- 7' -	Bottom of to	est pit at 7 feet below grou	nd surface. No	refusal encount	ered.					
- 81 -										
°										
- 9' -										
- 10' -										
- 11' -										
- 12'										
- 13'										
15										
Notes:									1 1 1	
		d for total volatile organic ed are reported in parts per								ne-in-air
Standart	i. Total VOCS detecte	ed are reported in parts per	ининон (фрин) і	iii die Tield Le	st Data Colum	III. 14D 1	iluicates no	VOCS delle	cica.	
	Test Pit Plan	Boulder Class		Propor	tions Used	1.00	breviations	GROUN	DWATER	
i			Classification ' - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Medius	n	()	Encountered	
	1.3	В 18	" - 36" nd Larger	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		(x)	Not Encountered	
	<b>↓</b>		-			F/M = Finc		Elapsed	Time to	Depth to
	NORTH	Excavation Eff EEasy	ort	SOME (SO.)	20 - 35%	F/C = Fine : GR = Gray	to coarse	Reading		Groundwater
Volume =		MMode D Diffic		AND	35 - 50%	BN = Brow YEL = Yell				
		D ······Diffic	un			True - ren	4111			
GZ\	GZA GeoEnvironme	ental, Inc.	m\04iobe\04.003	4050 0004 0024050	Militerios vieito-i					

GZA Ge	eoEnvironmental, Inc.						Test Pit No		TP-11	
	rs/Scientists		]	River Place			Page No.	1	of	1
			Hudson	ı, New Hampsh	ire		File No.		04.002405	0.01
	vey Road	-					Checked By	y:	RAB	
Manches	ster, New Hampshire	03103								
GG 4 D		C Mall		Excavation Eq	_	tur tur	D		2/27	2006
GZA Re	ър.	C. Melby	- Contractor Operator	New Ham	fatt Stone	ing, inc.	Date Ground Ele			/2006 6 feet
Weather		Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			05
TT OUUT TO		3.11.9, 0.00	Capacity	1.5 feet ³	Reach	10 feet	Time Comp			35
Depth		Soi	l Description			Sample	PID		Boulders:	
						No.	Reading	Excav.	Count/	Note
0 -							(ppm)	Effort	Class	No.
ŀ	Dark brown, fine to m	nedium SAND, some Orga	nics, some Silt.	TOPSOIL			ND	M		1
- p -						S-1				
1.5	Light brown, SILT, li	ttle fine Sand						M		
- 2' '	Light blown, SiL 1, in	the file Balla.					_			
						S-2	ND	M		
- 3'								14		
- 4'								М		
"								М		
- 51 -										
								M		
- 6' -		SII	LT				-			
								M		
- 7' -	Bottom of t	est pit at 7 feet below gro	und surface. No	refusal encount	ered.					
		,								
- 8, -										
- 9' -										
_ , _										
- 10' -										
- 11' -										
- 12' -										
. 121										
- 13'										
Notes:	_									
		d for total volatile organic ed are reported in parts pe								e-in-air
stanuaru	i. Total VOCS detecti	ed are reported in parts pe	i minion (ppin) i	it tile Tield Te.	st Data Co	rumi. ND i	idicates no	roes dele	oted.	
	Test Pit Plan	Boulder Clas		Propor	tions Used	CIV.	breviations	GROUN	DWATER	
Γ	1.5	A	ge Classification 5" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Medius	n	(_)	Encountered	
L			8" - 36" and Larger	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		(X)	Not Encountered	
	←	Excavation E		SOME (SO.)	20 - 35%	F/M = Fine F/C = Fine			Time to	Depth to
	NORTH	EEasy				GR = Gray		Reading	(Hours)	Groundwater
volume =_	3.1 eu. yd.	MMod DDiffi		AND	35 - 50%	BN = Brown YEL = Yell				
CAN	GZA GeoEnvironme	ental Ina								

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.		l feet
Weather		Sunny, 50s		Make	Komatsu	Model	PC 27	Time Starte		14	140
		•		Capacity	1.5 feet 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				
0.5'L	Light brown, SILT,							ND			1
- 1		7									
							S-2	ND			
- 2' -											
- 3'											
_ (											
- 4' -			SILT								
4.5	Light gray, fine to m	edium SAND, lit	tle Silt.				S-3	ND			
- 5' -	00.7,										
- 6' -			SANI	)				-			
- 7' -	Bottom of	test pit at 7 feet b	elow groun	d surface. No	refusal encount	ered.	-				
											)
- 8, —									-		
- 9' <del>-</del>											
- 10' -											
- 11' -											
- 12' -									-		
- 13' <del>-</del>											
Notes:											
	samples were screen	ed for total volatil	le organic co	ompounds (VC	CS) using a TE	I Model 58	Ob organic va	por meter re	ferenced to	an isobutyler	e-in-air
	. Total VOCS detec										
		·		41 /							
	Test Pit Plan		Boulder Class		Proport	ions Used		breviations	GROUN	DWATER	
· ·	8	Letter Designation		Classification	TRACE (TRA	0 - 10%	F = Fine M = Mediur	m		Encountered	
	1.5	A B	18" -	- 36"	TRACE (TR.)		C = Coarse		(x)	Not Encountered	
		C	36" and	Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium			
	▼	E	Excavation Effor	t	SOME (SO.)	20 - 35%	F/C = Fine t		Elapsed Reading		Depth to Groundwater
	NORTH 3.1 cu. yd.		EEasy MModerate	e	AND	35 - 50%	GR = Gray BN = Brown	n			
			DDifficul		E99577500		YEL = Yell				
	STA CONTO										

	eoEnvironmental, Inc rs/Scientists								TP-13	
	10.0011111010		F	River Place			Test Pit No Page No.	1	of	1
		-	Hudson	, New Hampsh	ire		File No.		04.002405	0.01
	vey Road	12					Checked B	y:	RAB	
Manche	ster, New Hampshire	03103		F	*******					
GZA Re	***	C. Melby	Contractor	Excavation Equal New Ham	-	ing Inc	Date		3/27	/2006
UZA KO		C. Mciby	Operator		latt Stone	ing, inc.	Ground Ele	v		9 feet
Weather	•	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Starte			110
			Capacity	1.5 feet ³	Reach	10 feet	Time Comp			525
Depth		Sc	oil Description			Sample	PID		Boulders:	
						No.	Reading	Excav.	Count/	Note
- 0 -	Dorle brown fine to	medium SAND, some Silt	Little Organies T	COBCOIL		C 1	(ppm)	Effort	Class	No.
		medium SAND and SILT		OPSOIL		0.4° S-1	ND	Е		1
- 1' -	Digit of our it, the to		Y SAND			S-2				
1.5	Brown, medium to c	oarse SAND, trace Silt.				1.5	ND	Е		
- 2' <b>-</b>						S-3	ND	E		
- 3' -						3-5	IND	15		
,								E		
- 4'										
								E		
- 5'								_		
		SA	AND					E		
- 6'								E		
_ 71 _	Bottom of t	est pit at 6.5 feet below g	round surface. No	refusal encoun	tered.			E		
- 7'										
- 8'										
- 91										
- 10' -										
111										
- 11' -										
- 12'										
· 13' -										
Notes:										
		ed for total volatile organi								e-in-air
standard	. Total VOCS detec	ted are reported in parts p	er million (ppm) ir	the "Field Te	t Data" co	lumn. "ND" i	ndicates no 🎙	OCS dete	cted.	
	Test Pit Plan	Boulder Cl	255	Propor	ions Used		bbreviations	GROUN	DWATER	
r	8		nge Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Medius		( )	Encountered	
l	1.5	В	18" - 36"			C = Coarse	••	(x)	Not Encountered	
4			and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine		Elapsed	Time to	Depth to
	NORTH	Excavation EEas		SOME (SO.)	20 - 35%	F/C = Fine GR = Gray		Reading		Groundwater
		ММо	derate	AND	35 - 50%	BN = Brow				
Volume =_		D Di	fficult			YEL - Yell	OW			Υ

GZA GeoE	Environmental, Inc						Test Pit No.		TP-14	
Engineers/	Scientists			River Place			Page No.	1	of	1
			Hudsor	ı, New Hampsh	ire		File No.		04.0024050	0.01
380 Harvey							Checked By	:	RAB	
Mancheste	r, New Hampshire	03103								
L		76 C M N		Excavation Eq	-				2/27	2006
GZA Rep.		C. Melby	Contractor		pshire Borir Iatt Stone	ig, inc.	Date Ground Elev	. 75		/2006 1 feet
W-adha-		Sunny, 50s	Operator Make	Komatsu	Model	PC 27	Time Started			30
Weather		Suthly, Jos	Capacity	1.5 feet ³	Reach	10 feet	Time Comp			100
			Сириску	1.5 (00)			rano comp			
Depth		Soi	l Description			Sample	PID		Boulders:	
-						No.	Reading	Excav.	Count/	Note
							(ppm)	Effort	Class	No.
0 _{0.3} . Dar	rk brown, fine to med	lium SAND, some Silt, little (	Gravel TOPSOIL			0.3' S-1		16		1
Ora	ange brown, fine to n	nedium SAND and SILT.				S-2	ND	E		1
- ı' —		SILTY	SAND			3-2	ND	Е		
- 2' Gr	ray, fine to medium	n SAND, little Silt.					1,10	, Li		
4 ]						S-3	ND	Е		
- 3' —								_		
								E		
- 4'										
								E		
- 51 —		SA	ND				-	_		
							1	E		
- 6' -	Bottom of	test pit at 6 feet below gro	und surface No.	refisal encoun	tered	-				
	DOROM OF	test pit at o reet below gre	and surface. 140	1010501 01100011	iorea.					
- 7' <del></del>										
- 8' -										
							1			
- 9' -										
10' -										
11' -										
12'										
12										
13' -										
Notes:		10 marks 1 at 1		VOD) - '	71 Marsh 1 60	Mh arrainte		Canana di	انجارهم	a in ci-
i. Soil san	mples were screens	ed for total volatile organic ted are reported in parts p	compounds (VC	n the "Field Te	st Deta" ool	our organic vi	apor meter ret Indicates no V	ierencea (d OCS dete	i an isoputyien ected.	ic-III-8IF
siai iudi'U.	TOTAL YOUS DETEC	are reported in parts p	v munou (bhm) i	nie Tielu IC	, Date VII	17D I	Y	550 000		
To	est Pit Plan	Boulder Cla		Propo	rtions Used	1920	bbreviations	GROUN	DWATER	
	8		ge Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Mediu	m	( )	Encountered	
	1.5	В	18" - 36"			C = Coarse		(x)	Not Encountered	
			and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium	II		
	<u> </u>	C 30		1				Elanced	Time to	Denth to
NO	<u>†</u>	Excavation I		SOME (SO.)	20 - 35%	F/C = Fine	to coarse		l Time to 3 (Hours)	Depth to Groundwater
NO Volume =	DRTH		y Ierate	SOME (SO.)	20 - 35% 35 - 50%		to coarse			

GZA Ge	eoEnvironmental, Inc	<u>.                                    </u>					Test Pit No.		TP-15	
	rs/Scientists		1	River Place			Page No.	1	of	1
			Hudsor	ı, New Hampsh	ilre		File No.		04.0024050	).01
	vey Road ster, New Hampshire	02102					Checked By	": —	RAB	
Manche	ster, New Hampshire	2 03103		Excavation Eq	uipment					
GZA Re	ep.	C. Melby	Contractor	•	pshi <b>re B</b> orii	ng, Inc.	Date		3/28/	2006
			Operator	N	latt Stone		Ground Ele			) feet
Weather		Sunny, 50s	– Make	Komatsu	Model _	PC 27	Time Starte			115
			Capacity	1.5 feet ³	Reach -	10 feet	Time Comp	leted	- 07	35
Depth		So	il Description			Sample	PID		Boulders:	
.						No.	Reading	Excav.	Count/	Note
- 0 -							(ppm)	Effort	Class	No.
Ť	Dark bro	wn, fine to medium SAND	), some Silt, little	Organics. Top	soil	S-1	ND	Е		1
- ı'	Light brown, fine SA	AND and Silt				S-2				
	Digital Drowing time Dr						ND	Е		
- 2' —								E		
- 3' -		SILTY	SAND					_		
- 4' _{4,3'}								E		
	Gray, fine to medium	n SAND, some SILT.				4.3° S-3	ND	Е		
		SA	ND					E		
- 6' -								Е		
- 7' -	Bottom of	test pit at 6.5 feet below gr	ound surface. No	refusal encour	ntered.					
						15				
- 8, -										
- 9 [,]										
- 10' -							-			
- 11'								-		
- 12'										
121										
- 13'										
Notes:					+		1			
1. Soil		ed for total volatile organi								e-in-air
standard	1. Total VOCS detec	ted are reported in parts po	er million (ppm) i	n the "Field Te	sī Data" col	umn. "ND" ii	ndicates no \	OCS dete	ctea.	
	Test Pit Plan	Boulder Cla Letter Designation Size Ran	iss ige Classification	Propos	tions Used	F = Fine	breviations	GROUN	DWATER	
	1.5	A B	6" - 17" 18" - 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 F/C = Fine			Time to	Depth to
	NORTH	Excavation I EEas		SOME (SO.)	20 - 35%	GR = Gray	∪ CUMISC	Reading	(Hours)	Groundwater
	2.8 cu. yd.	MMoo		AND	35 - 50%	BN = Brow	_	-		

GZA G	eoEnvironmental, Inc						Test Pit No.		TP-16	
Enginee	ers/Scientists			River Place			Page No.	1	of	1
ellers.			Hudson	ı, New Hampsh	ire		File No.		04.002405	0.01
	vey Road						Checked By	:	RAB	
Manche	ster, New Hampshire	03103								
		0.14.11		Excavation Eq	•	· ·			2.00	/200 <i>c</i>
GZA R	ер.	C. Melby	Contractor		pshire Boriz	ng, Inc.	Date			/2006
11 t 4 l	_	Common 60a	Operator		fatt Stone	DC 27	Ground Elev			5 feet 73.5
Weather	1	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		So	il Description			Sample	PID		Boulders:	
						No	Reading	Excav.	Count/	Note
							(ppm)	Effort	Class	No.
- 0 -	Dark brown, fine to	medium SAND, some Silt	, little Organics.	TOPSOIL		S-1		Е		1.1
0.8'						0,81	ND	E		1, 2
יו –	Light brown, fine SA	AND and SILT.				S-2	ND	Е		
- 2' _{2.2} '		SILTY	SAND				110			
						2.2*		Е		
- 31 -	Light brown, fine to	medium SAND, little Silt	•							
								·Ε		
- 4' -										
						S-3	ND	E		
- 5' -										
								Е		
- 6' -										
								E		
7' -	Bottom of	test pit at 7 feet below gro	ound surface. No	refusal encoun	ered.					
- 8, -										
<b>-</b> 9' <b>-</b>										
7										
- 10' -										
- 11' -							$\vdash$			
- 12' -							-			
- 13'										
Notes:					_		:t:			
1. Frost	t encountered.									
		ed for total volatile organi								e-in-air
standaro	<ol> <li>Total VOCS detect</li> </ol>	ted are reported in parts p	er million (ppm) i	n the "Field Te	st Data" col	umn. "ND" i	ndicates no V	OCS dete	cted.	
	Test Pit Plan	Boulder Cla	164	Bronor	tions Used	1 41	breviations	GROUN	DWATER	
	8	Letter Designation Size Rai	nge Classification			F = Fine				
	1.5	A	6" - 17" 18" - 36"	TRACE (TR.)	0 - 10%	M = Medius C = Coarse	n	( ) (X)	Encountered Not Encountered	
	<b></b>		and Larger	LITTLE (LI.)	10 - 20%	V = Very F/M = Fine	to medium			
	1	Excavation 1		SOME (SO.)	20 - 35%	F/C = Fine t			Time to (Hours)	Depth to Groundwater
	NORTH 3.1 cu. yd.	EEas MMo		AND	35 - 50%	GR = Gray BN = Brown	n			
		DDif		00x383		YEL = Yell				
GZ	GZA GeoEnvironn	nental, Inc.								

GZA GeoEnvironme	ental, Inc.					Test Pit No		TP-17	
Engineers/Scientists		1	River Place			Page No.	1	of	1
		Hudsor	n, New Hampsl	nire		File No.	-	04.002405	0.01
380 Harvey Road Manchester, New Ha	umpehira 03103					Checked B	y:	RAB	
Manchester, New Ha	impshire 03103		Excavation Eq	ninment					
GZA Rep.	C. Melby	Contractor		pshire Bori	ng, Inc.	Date		3/28	/2006
	· · · · · · · · · · · · · · · · · · ·	Operator		latt 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	oleted	0	345
Depth		oil Description			Sample	PID		Boulders:	
John.	•				No.	Reading	Excav.	Count/	Note
0 -						(ppm)	Effort	Class	No.
0.5' Dark brown,	fine to medium SAND, little Sile	t, little Organics. T	OPSOIL		0.5' S-1	ND	Е		1
Light brown	, fine SAND and Silt.								
	SILT	Y SAND			S-2	ND	Е		
- 2' - Gray, fine to	medium SAND, little Silt.				-				
1	,						E		
. 3, —						ND	E		
4' —									
					S-3		Е		
- 51 —									
		ANTS.					E		
6' —	5	AND					Е		
- 7' - B									
' Bo	ottom of test pit at 7 feet below gr	round surface. No	refusal encoun	tered.					
- 8' —									
9' —									
10'									
11' -									
12'									
13' -									
.									
Notes:						L			
	e screened for total volatile organ	nic compounds (VO	CS) using a Tl	EI Model 5	ROb organic va	por meter re	ferenced to	an isobutyler	ıe-in-air
	CS detected are reported in parts								
Test Pit Plan	Boulder C	Class	Propo	rtions Used	I Al	breviations	GROUN	DWATER	
6		ange Classification 6" - 17"	TRACE (TR.)	0 - 10%	F = Fine M = Medius	n	( )	Encountered	
1.5	В	18" - 36"	LITTLE (LI.)	10 - 20%	C = Coarse V = Very		$(\mathbf{x})$	Not Encountered	
<b></b>		6" and Larger			F/M = Fine		Elapsed	Time to	Depth to
	Excavation EE		SOME (SO.)	20 - 35%	F/C = Fine ( GR = Gray	o coarse	Reading	(Hours)	Groundwate
NORTH /olume = 2.3 cu. yd.	ММ		AND	35 - 50%	BN = Brow				

GZA G	eoEnvironmental, Inc						Test Pit No.		TP-18			
55	ers/Scientists	Χ	]	River Place			Page No. 1 of 1					
		i :	Hudson	n, New Hampsh	ire		File No. 04.0024050.01					
	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 <del>-</del>	Brown, fine to media	um SAND, some Silt.										
						S-1	ND	Е				
- 2'	): 							E				
- 3'		SILT	Y SAND					<u> </u>				
J								E				
- 4' <del></del>	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'												
- 11 ² -	0											
11	5											
- 12'	1											
- 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			
	<b>←</b>		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	
		_	Hudson, New Hampshire					File No.		04.0024050.01		
380 Harve	•	00100						Checked By: RAB				
Mancheste	er, New Hampshire	03103		Evenyetion	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	ed	09	920	
	Capacity 1.5 feet ³ Reach						t	Time Comp	leted	10	1010	
						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.	_			_			
		<b>,</b>	<b>.</b>									
- 8'												
- 91 -												
1												
- 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		
	<b>†</b>	С	36" and Larger	LITTLE (L	l.) 10 – 20%	F/M		to medium	Planeed	Time to	Depth to	
NC	I ORTH		avation Effort	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						

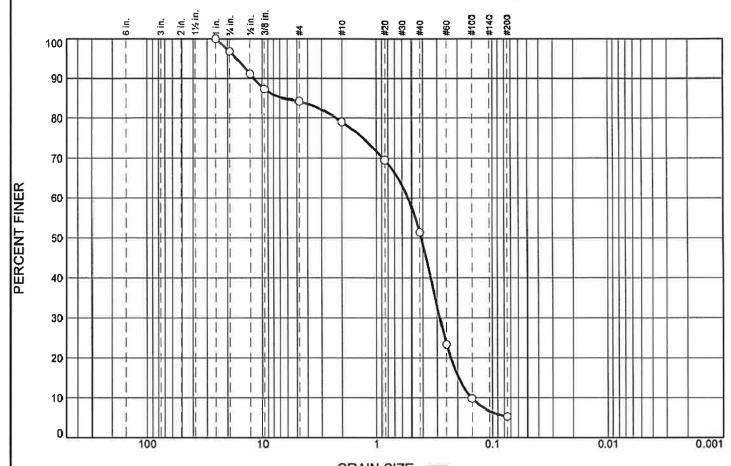
OZA Gast	Environmental, Inc						Test Pit No.		TP-20	
Engineers/		•	I	River Place			Page No. 1 of			
		_	Hudson	ı, New Hampsh	ire		File No. 04.00240			).01
380 Harve	100000	00100						Checked By: RAB		
Mancheste	er, New Hampshire	: 03103		Excavation Eq	uinment					
GZA Rep.		C. Melby	Contractor	-	pshire Bori	ng, Inc.	Date		3/28/	2006
	-	•	Operator		fatt Stone		Ground Elev.		133.2	2 feet
Weather	4	Sunny, 50s	Make	Komatsu	Model	PC 27	Time Started			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'		SI	LTY SAND			S-2	ND	E		
								E		
- 6' <b>-</b>								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	
	<u> </u>	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	<del></del>		n, New Hampsh	ire		File No. 04.0024050.01			
880 Harvey Road						Checked By	) <del>-</del>	RAB	
Manchester, New Ha	mpshire 03103								
			Excavation Eq	-					
GZA Rep.	C. Melby	Contractor	New Ham		ing, Inc.	Date			2006
		Operator	-	latt Stone	70.00	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	
<b>↑</b>		_			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	tut		- 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	
				() <del></del> )							
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 5iit									
							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		
			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



				SKAIN OF	<u> ∠⊏ - mm.</u>		
9/ 4911	% Gravel			% Sand			0/ Eines
% +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)
1	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		
			1	
	ľ			
	ı			
	l l			

Material Description  Brown, fine to coarse SAND, some Gravel, trace Silt.								
PL=	Atterberg Limits LL=	PI=						
D ₈₅ = 6.5298 D ₃₀ = 0.2865 C _u = 3.50	Coefficients D ₆₀ = 0.5332 D ₁₅ = 0.1971 C _c = 1.01	D ₅₀ = 0.4127 D ₁₀ = 0.1525						
USCS= SP-SN	Classification AASHTO	)= A-3						
	Remarks							

(no specification provided)

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

Depth: 10-12 ft.

Date:

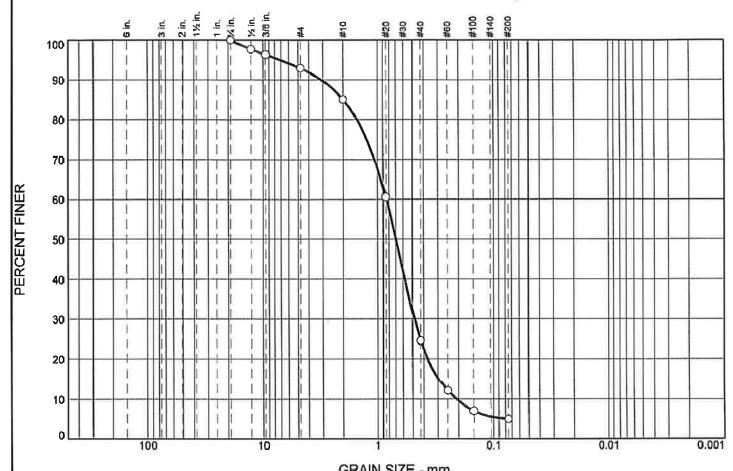
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



				JKAIN SI	<u> </u>		
97 - 211	% Gravel			% Sand			% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% Fines
0.0	0.0	3.7	11.3	43.3	29.5	7.2	5.0

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

	aterial Description o coarse SAND, little	- C
PL=	Atterberg Limits	PI=
D ₈₅ = 1.9957 D ₃₀ = 0.4810 C _u = 4.02	Coefficients D ₆₀ = 0.8406 D ₁₅ = 0.2993 C _c = 1.32	D ₅₀ = 0.6956 D ₁₀ = 0.2091
USCS= SP-SM	Classification AASHTC	)= A-1-b
	Remarks	

(no specification provided)

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

Depth: 5-7 ft.

Date:

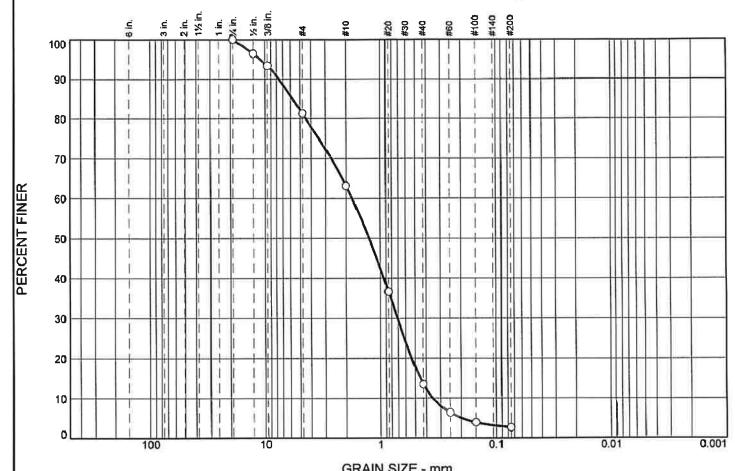
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Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



				SIC VIIM DIS	111111		
0/ .20	% Gravel			% Sand			% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	/o Filles
0.0	0.0	6.7	30.2	39.2	17.6	3.6	2.7

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		

	Material Description Brown, medium to coarse SAND and Gravel, trace Silt.						
PL=	Atterberg Limits 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

Depth: 5-7 ft.

Date:

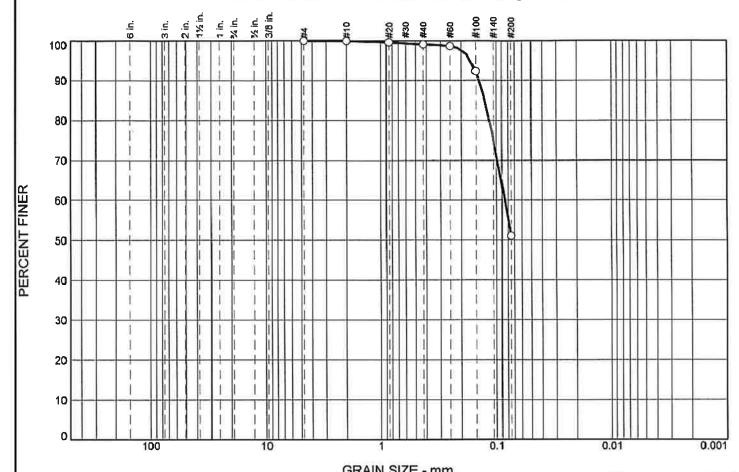
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



				DIVAIN OF	LL - 111111	-2	
0/ .70	% Gravel			% Sand		- 1	% 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		

	Material Description Brown, SILT and fine Sand.						
PL= .	Atterberg Limits	! P =					
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:

GZA GeoEnvironmental, Inc.

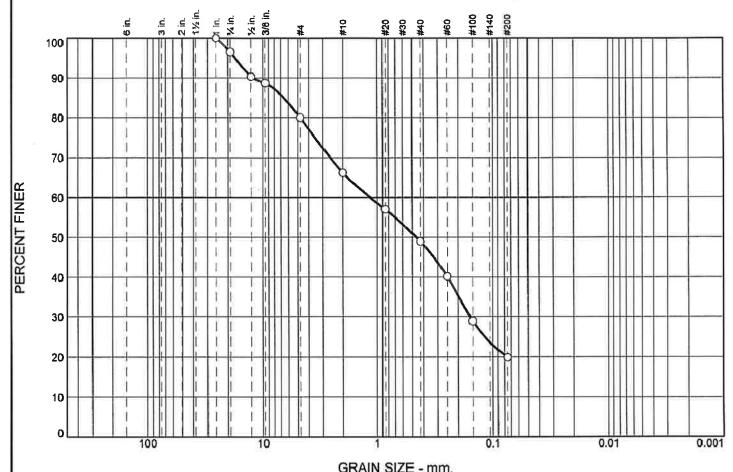
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





07 (40)		% Gravel			% Sand		0/ Flace
% +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)
i	1	100.0		1
	3/4	96.5		
	1/2	90.3		
	3/8	88.7		
	#4	80.0		
	#10	66.1		
	#20	57.0		
	#40	48.9		
	#60	40.1		
	#100	28.9		
	#200	19.8		
	i i			

	Material Description  Brown, fine to medium Sand, some Gravel, little Silt.					
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= Cc=	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.

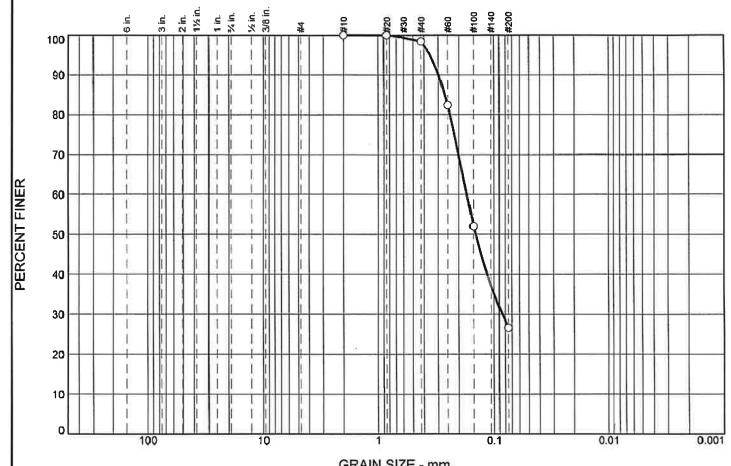
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





				SIVAIIN OIL			
0/ 1011	% Gravel				% Sand		9/ Fines
% +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		
	<b>SIZE</b> #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 Brown, fine to medium SAND, some Silt.					
PL=	Atterberg Limits	PI=				
D ₈₅ = 0.2641 D ₃₀ = 0.0846 C _u =	Coefficients D60= 0.1721 D15= 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.

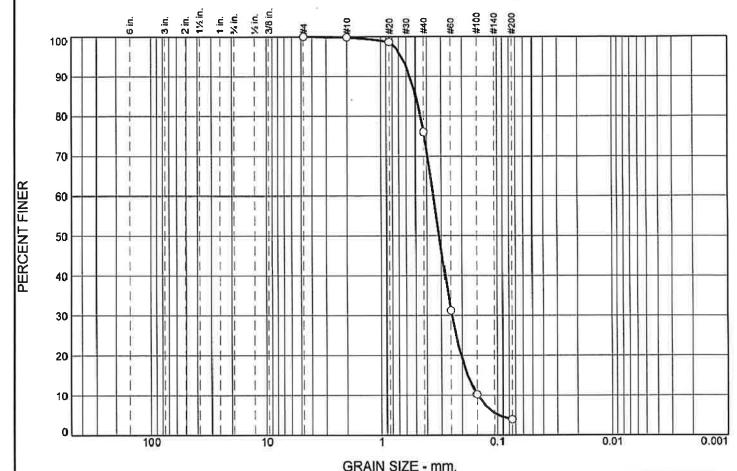
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Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





0/ + 211		% Gravel		% Sand			% Fines
% +3"	Coarse	Medium	Fine	Coarse	Medium	Fine	% 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 Brown, fine to medium SAND, trace Silt.						
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:

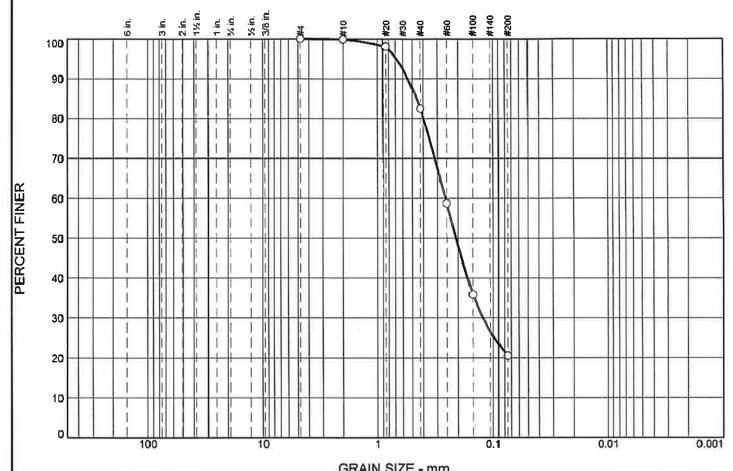
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Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



% +3"		% Gravel		% Sand			0/ Eleca
	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		

	<b>Material Descriptior</b> 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)
	Remarks	

* (no specification provided)

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

**Depth:** 4-6 ft.

Date:

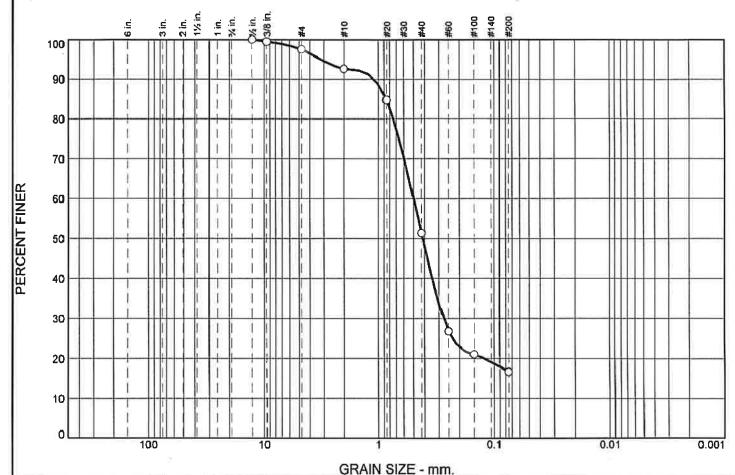
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



% +3"		% Grav	el % Sand		9/ Filmon		
	Coarse	Medium	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.

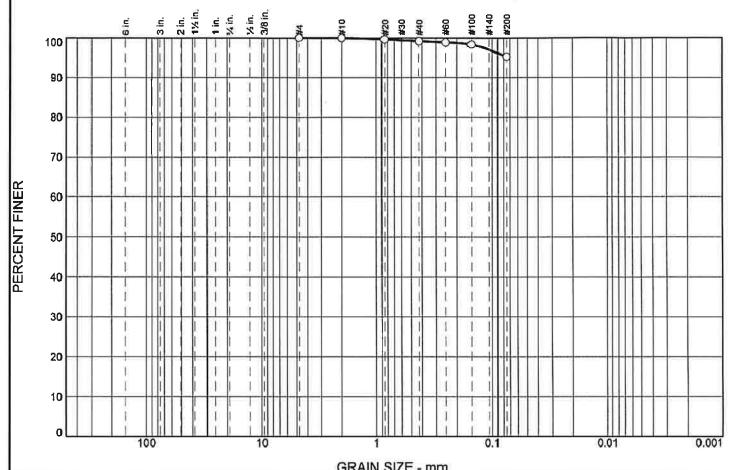
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





ONAIN SIZE - IIIII.								
% +3"	% Gravel		% Sand			% Fines		
	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	<u>Classificati</u> AA	i <u>on</u> SHTO= 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.

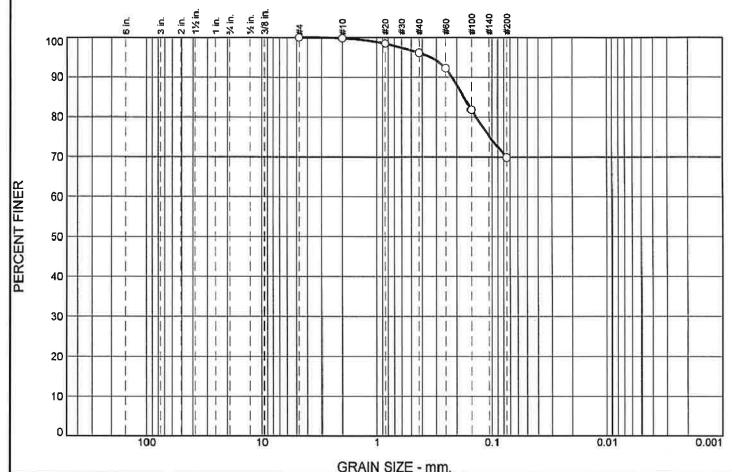
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





% +3"		% Grave		% Sand			0/ Finns
	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:

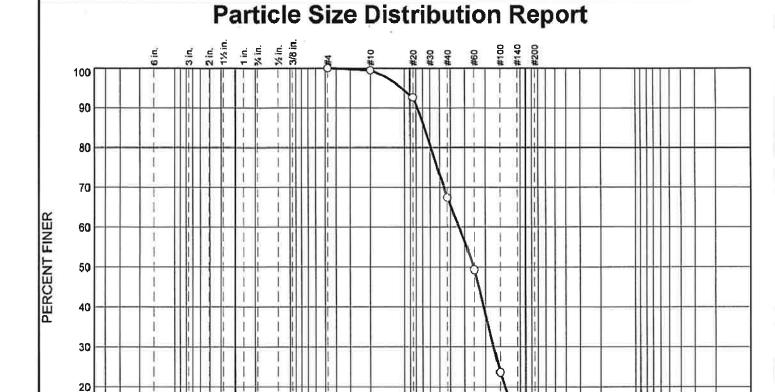
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GRAIN SIZE - mm

OTANI OIZE TIIII.								
0/ . 20	% G	% Gravel		% 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.

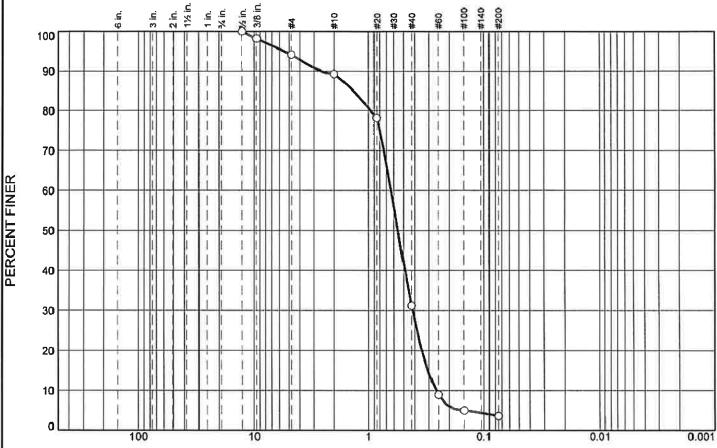
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





				GRAIN SI	ZE - mm.			
0/ . 51		% Grave	1	% Sand			0/ 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	USCS= SP AASHTO= A-1-b					
<u>Remarks</u>						

* (no specification provided)

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

**Depth:** 3.5 ft.

Date:

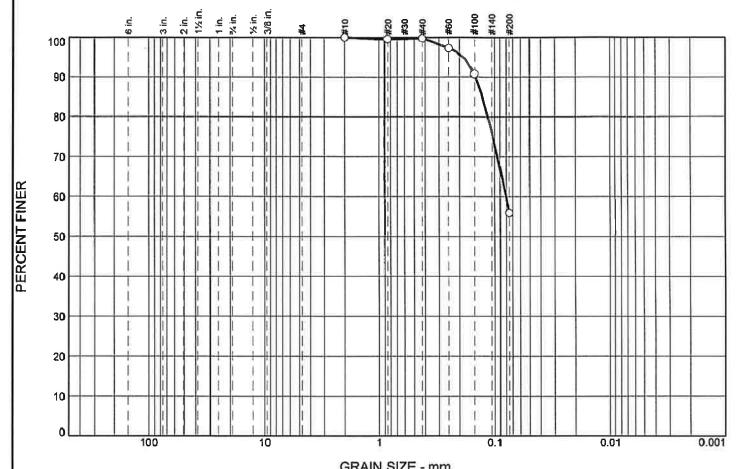
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



GNAIN SIZE - IIIII.							
9/ . 211	% Gravel			% Sand		9/ Fines	
% +3"	Coarse	Medium	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				

Material Description SILT and fine Sand.					
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:

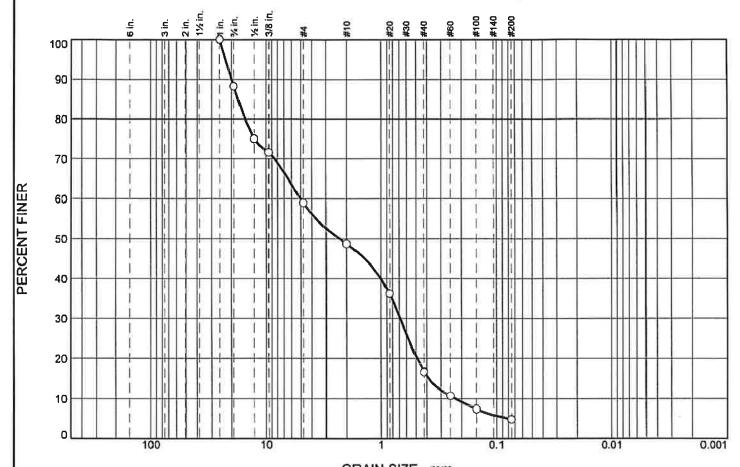
GZA GeoEnvironmental, Inc.

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 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 LL=	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	USCS= SP AASHTO= A-1-a						
Remarks							

(no specification provided)

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

Depth: 0.5-6.5 ft.

Date:

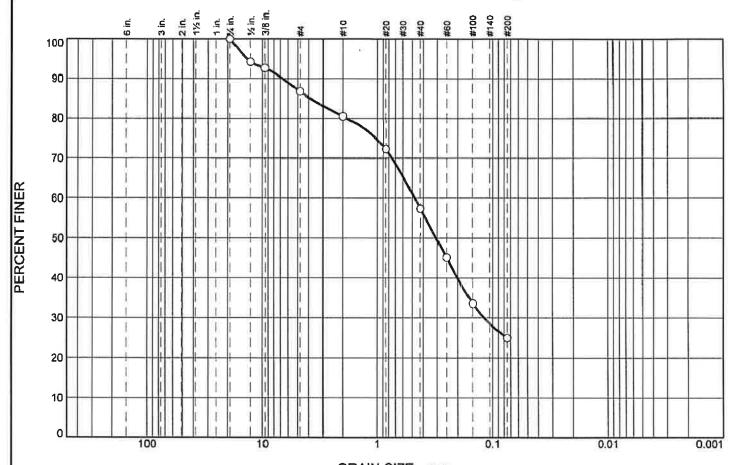
GZA GeoEnvironmental, Inc.

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)						
Remarks							

(no specification provided)

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

Depth: 0-2.5 ft.

Date:

GZA GeoEnvironmental, Inc.

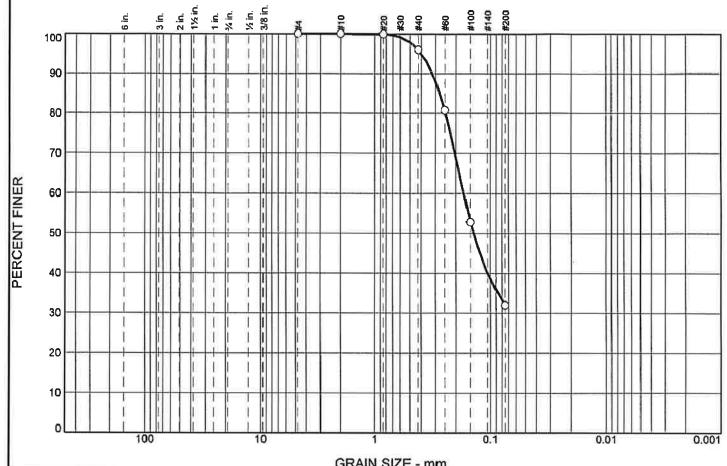
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





% +3"		% Gravel % Sand		% Gravel		% Sand		9/ Fines
76 TJ	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	USCS= SM Classification AASHTO= A-2-4(0)						
<u>Remarks</u>							

* (no specification provided)

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

Depth: 2-3 ft.

Date:

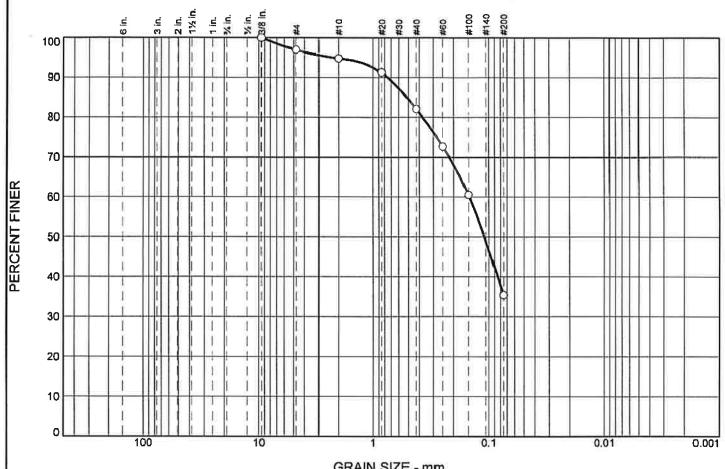
GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01



				SICKIN OF	<u> </u>			
0/		% Grav	el	% Sand		% 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	USCS= SM Classification AASHTO= A-2-4(0)						
<u>Remarks</u>							

(no specification provided)

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

Depth: 0.7-7 ft.

Date:

GZA GeoEnvironmental, Inc.

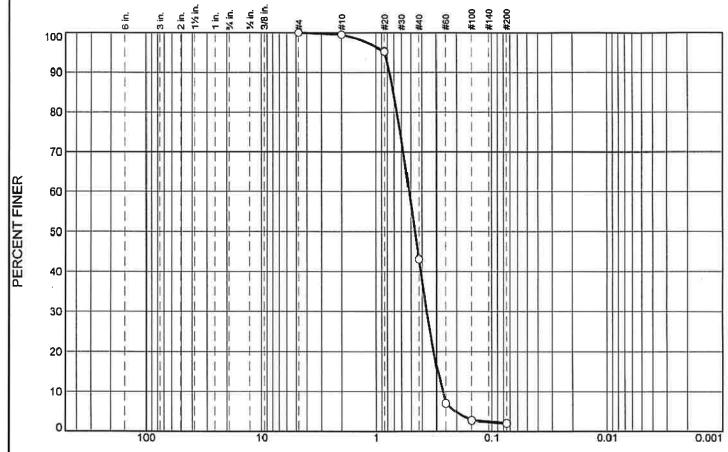
Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01





26.7

65.7

GRAIN SIZE - mm.

% Sand
Fine Coarse Medium Fine

% Fines

5.1

SIEVE	PERCENT	SPEC.*	PASS?
SIZE	FINER	PERCENT	(X=NO)
#4	100.0		
#10	99.5		
#20	95.2		
#40	43.1		
#60 #100	7.1 2.8		
#200	2.0		
11200	2.0		

Coarse

0.0

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

% +3"

0.0

Depth: 1.5-6.5 ft.

% Gravel

0.5

Medium

0.0

Date:

2.0

GZA GeoEnvironmental, Inc.

Client: W/S Development Associates, LLC

Project: River Place Hudson, NH

Manchester, NH

Project No: 24050.01

# APPENDIX C BORING LOGS

**LANGAN** 

Log of Boring A-B-BOR-02 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 135 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/25/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 22.5 ft 22.5 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4-7/8in Tricone Roller Bit 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 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 Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 135. 10 20 30 40 0 Started Drilling at 6/25/2020 4" Brown fine-medium SAND, some silt, Some roots 134. S-1 at 0ft (dry) [TOPSOIL] 3 Brown fine SAND, some silt, trace roots 20 3 (dry) Brown fine-medium SAND, some silt 2 (dry) S-2 at 2ft 10 Brown fine-medium SAND, trace silt and SILT seams up to 11 2 inches thick 3 (dry) 15 Auger to 4ft 13 +131.C S-3 at 4ft Brown fine-medium SAND, trace silt 8 ENTERPRISE (dry) 12 S-3 SS 24 5 25 13 14 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Brown fine-medium SAND, trace silt 11 (dry) SS 13 S-4 8 7 15 Auger to 8ft 8 S-5 at 8ft Brown fine-medium SAND, trace silt, and SILT, trace clay seams 2-3 inches thick 17 (moist) 4 9 SS 35 18 125.5 Brown fine-medium SAND, trace silt 14 10 (moist) S-6 at 10ft 15 Brown fine-medium SAND, trace silt, trace f-c gravel SS 12 S-6 9 (moist) 12 15 12 S\DATA1\151010101\PROJECT DATA\ 13 Auger to 15ft, easy drilling 14 15 S-7 at 15ft Brown fine-coarse SAND, trace silt, trace f-c gravel 9 8 16 Brown silty fine-medium SAND, trace f-c gravel, trace weathered gravel fragments 29 (wet) [TILL] 17 18 Auger to 20ft, moderate drilling 19



Log of Boring A-B-BOR-02 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 135 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 -115. 20 Brown fine-medium SAND, some silt, trace f-c gravel, trace S-8 at 20ft SS weathered gravel fragments 47 S-8 (wet) [TILL] 21 106 59 51 +113.0 22 Auger to 22.5ft, hard drilling NLANGAN.COMDATA/BOSIDATA1/151010101/PPROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ....7/22/2020 9:51:22 AM ... Report: Log Bottom of Boring Auger refusal at 22.5ft ·Bottom of boring at 23 6/25/2020 Boring backfilled with auger cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

LANGAN

Log of Boring A-B-BOR-03 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132.5 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished 6/25/20 SoilTesting, Inc. 6/25/20 **Drilling Equipment** Completion Depth Rock Depth 13.5 ft Truck Rig 13.5 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.) V N/A N/A 9 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 Taylor Sisti 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 132 10 20 30 40 0 Started Drilling at 6/25/2020 5" Brown fine SAND, some silt, some roots 132. S-1 at 0ft (dry) [TOPSOIL] 5 Brown fine SAND, some silt, trace roots 18 SS 6 (dry) Brown silty fine SAND GPJ 130. 2 (dry) S-2 at 2ft USE. 5 Brown SILT, some fine sand 5 (dry) 20 SS 3 6 129.0 Auger to 4ft Brown fine SAND, some silt S-3 at 4ft 5 ENTERPRISE Brown fine SAND, trace silt and SILT, alternating layers 1-6 inches thick 5 S-3 SS 17 5 (moist) 6 6 OGS\151010101 S-4 at 6ft Brown fine SAND, trace silt and SILT, alternating layers 1-4 6 inches thick 8 (moist) 8 7 SS 11 125 Auger to 8ft Brown fine-medium SAND, trace silt 17 8 (moist) S-5 at 8ft 11 Brown fine-medium SAND, trace silt (moist) 21 22 9 S-5A 8 30 Brown silty fine-medium SAND, trace f-c gravel, trace weathered gravel pieces 31 10 S-6 at 10ft (wet) [TILL] 37 Brown silty fine-medium SAND, trace f-c gravel, trace SS 41 S-6 weathered gravel pieces 103 (wet) [TILL] 62 40 12 Auger to 13.5ft, hard drilling, some light-medium rig DATA/ chatter 13 Auger refusal at 13.5ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT S-7 SS- 3 50/3 S-7 at 13.5ft, spoon Gray fine-medium SAND, some f-c gravel, trace silt, trace +118.8 bouncing 14 weathered gravel pieces Bottom of boring at (wet) [WEATHERED ROCK] 6/25/2020 11:53 AM Inferred Top of Bedrock 15 Boring backfilled with auger Bottom of Boring cuttings. 16 17 18 19

LANGAN

Log of Boring A-B-BOR-04 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 144 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc. 7/2/20 7/2/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 25 ft 21 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 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 Reid Balkind 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) 144. 10 20 30 40 Started Drilling at 7/2/2020 4" Dark brown fine-medium SAND, trace silt, trace SS 143. S-1 at 0ft coarse gravel, trace roots 5 (dry) [TŎPSOIL] 12 Brown fine-medium SAND, trace silt, trace f-c gravel SS S-2 at 2ft Brown fine-medium SAND, trace silt, trace f-c gravel 5 6 4 3 8 140. Drive casing to 4ft and Brown fine-medium SAND, some silt, some fine gravel 19 washout with water (moist)[TILL] 33 S-3 SS S-3 at 4ft 16 5 28 29 6 S-4 at 6ft Brown fine-medium SAND, some silt, some fine gravel 27 (moist)[TILL] SS 35 S-4 15 42 50 8 Drive casing to 8ft and Brown fine-medium SAND, some silt, some fine gravel, 29 washout with water trace weathered rock fragments 42 SS S-5 at 8ft S-5 (wet)[TILL] 4 9 49 59 10 S-6 at 10ft Brown fine-medium SAND, some silt, some f-c gravel, 56 trace weathered rock fragments SS 61 S-6 (moist)[TILL] 4 122 61 76 12 13 Open hole drilling to 15ft and Brown to black fine-coarse SAND, some silt, some f-c SS 70 washout with water, Hard gravel, trace weathered rock fragments S-7 10 90 drilling (moist)[TILL] 16 S-7 at 15ft 17 18 19



Log of Boring A-B-BOR-04 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 144 (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 40 124. 20 Drill to 20ft and washout with Brown fine-medium SAND, some silt 8-S SS 9 water (wet) 70/4 S-8 at 20ft 21 Light gray to dark gray SCHIST; fine to medium C-1 at 21ft grained; moderately weathered; very close to close fracture spacing; fractures moderately dipping to near 5:01 =42% REC=43"/48" =90% 22 horizontal; strong; rock quality poor; [BEDROCK] 9:29 RQD=20"/48" 2 23 14:08 24 NLANGAN.COMIDATA/BOSIDATA1151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:51:29 12:13 119.0 25 Bottom of boring at 7/2/2020 Boring backfilled with soil Bottom of Boring cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 43

# LANGAN

Log of Boring A-B-BOR-05 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth 21.5 ft N/E Size and Type of BiHollow Stem Auger and 3-7/8in Tricone Roller Disturbed Undisturbed Core Number of Samples Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) 3in 15 N/A Casing Hammer Automatic Drilling Foreman Weight (lbs) Drop (in) 30 140 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) Scale 135. 10 20 30 40 Started Drilling at 7/1/2020 4" Brown fine-medium SAND, some silt, some roots 134. 3 (moist) [TOPSOIL] S-1 at 0ft SS 5 12 Brown fine SAND, some silt (dry) a S-2 at 2ft Brown fine SAND, some silt 5 (dry) SS 3 6 Auger to 4ft 8 S-3 at 4ft Brown fine SAND, some silt, with f-c sand trace silt 9 ENTERPRISE seam about 3 inches thick at 5.5ft 12 S-3 SS (moist) 16 5 13 16 +129.0 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, trace silt 20 (moist) 13 SS S-4 15 Auger to 8ft 8 S-5 at 8ft Brown fine-medium SAND, trace silt (moist) 10 SS S-5 18 9 11 15 S-6 at 10ft Brown fine-medium SAND, some silt, trace fine gravel 22 (moist) 21 SS E 20 Brown fine-coarse SAND, trace silt, trace fine gravel 16 12 (moist) BOS\DATA1\151010101\PROJECT DATA\ 13 Auger to 15ft, easy drilling  $\nabla$ 15 S-7 at 15ft SS Brown fine-coarse SAND, trace silt 3 (wet) 5 10 S-7 16 Auger to 17ft, auger refusal No Recovery S-8 at 17ft, spoon refusal Remove auger and spin Gray BOULDER 4:30 3inch casing to 17ft 18 ·C-1 at 17.2ft 3:29 19 S-9 at 19.5ft Brown silty fine-medium SAND, some fine gravel, 10



Log of Boring A-B-BOR-05 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 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 -115.0 20 some weathered rock fragments SS 24 S-9 (wet)[TILL] 10 35 NLANGAN.COMDATA/BOSIDATA1/151010101/PROJECT DATAL DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:51:32 AM ... Report. Log - LANGAN 21 41 Bottom of boring at 7/1/2020 Boring backfilled with auger 22 Bottom of Boring cuttings. 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-06 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131.5 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 25 ft 25 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 9.5 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 Reid Balkind 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) 131. 10 20 30 40 Started Drilling at 7/1/2020 4" Dark brown fine-medium SAND, trace silt, trace roots 131. (dry) [TOPSOIL] S-1 at 0ft SS Brown fine-medium SAND, some silt, trace fine gravel 19 (dry) 2 SS S-2 at 2ft Brown fine-medium SAND, some silt, trace fine gravel 2 8 3 5 Auger to 4ft Brown silty f-m SAND, trace fine gravel SS 3 ENTERPRISE S-3 at 4ft (moist) 3 S-3 16 5 4 5 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown silty f-m SAND, trace fine gravel 3 (moist) SS S-4 8 5 8 Auger to 8ft Brown fine-coarse SAND, some silt 5 S-5 at 8ft (wet) SS S-5 22 9 5 10 S-6 at 10ft Brown fine-coarse SAND, some silt, trace f-c gravel 3 (wet) SS 5 S-6 20 5 12 13 14 Auger to 15ft. Easy drilling SS Brown fine-coarse SAND, trace silt, trace f-c gravel 2 S-7 at 15ft (wet) 2 15 S-7 5 17 18 19



Log of Boring A-B-BOR-06 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 111. 20 Auger to 20ft. Easy drilling Brown fine-coarse SAND, trace silt, trace f-c gravel S-8 at 20ft 17 21 37 Brown fine-medium SAND, some silt, trace f-c gravel, trace 20 weathered rock fragments 20 (wet) [TILL] 22 23 Brown fine-medium SAND, some silt, trace f-c gravel, trace 24 weathered rock fragments (wet) [TILL] VLANGAN.COMDATA/BOS/DATA1/151010101/PPROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:5 25 Inferred Top of Bedrock S-9 SS 3 50/3 Auger to 25t. Moderate 106 drilling S-9 at 25ft 26 Bottom of Boring Auger and spoon refusal encountered at 25ft. Bottom of boring at 7/1/2020 27 Boring backfilled with auger cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 43

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A-B-BOR-07 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (NGVD29) Date Started **Drilling Company** Date Finished 6/22/20 6/23/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 29 ft 29 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 9 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) 130. 10 20 30 40 0 Started Drilling at 6/22/2020 6" Dark brown fine SAND, some silt, trace roots SS 2 129. S-1 at 0ft (dry) [TOPSOIL] 3 Light brown silty fine SAND, trace roots 10 5 (dry) 5 USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 3 (dry) 8 3 3 Auger to 4ft, Easy Augering SS TILLING S-3 at 4ft Light brown fine-medium SAND, trace silt 5 ENTERPRISE (moist) 5 S-3 12 5 3 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown silty fine-medium SAND SS (moist) S-4 13 Auger to 8ft, Easy Augering 8 S-5 at 8ft Light brown fine SAND, some silt 6 (wet) SS 13 9 7 10 S-6 at 10ft Brown medium-coarse SAND, trace silt, trace gravel 3 (wet) 5 2 Light brown fine SAND, trace silt (wet) 5 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, some fine gravel, trace silt 6 (wet) 4 S-7 16 20 10 35 17 Auger to 20ft, Easy Augering 18 19



BORINGS USE.GPJ

Log of Boring A-B-BOR-07 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 130 (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 -110.0 20 S-8 at 20ft Brown fine-coarse SAND, some fine gravel, trace silt SS (wet) S-8 12 21 3 3 22 Auger to 25ft, Hard Augering Heavy Chattering 23 24 25 S-9 at 25ft Brown fine-coarse SAND, some fine gravel, trace silt 18 (wet) SS 26 39 48 Auger to 30ft, Hard Augering, Heavy Chattering 28 Inferred Top of Bedrock +101.0 29 Auger Refusal at 29ft, Hole VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ collapsed, unable to retrieve spoon 30 Bottom of Boring Bottom of boring at 6/23/2020 Boring backfilled with auger 31 cuttings. 32 33 34 35 36 37 38 39 43

Log of Boring A-B-BOR-08 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 136 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/24/20 6/24/20 **Drilling Equipment** Completion Depth Rock Depth 24.5 ft Truck Rig 19.5 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 6 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 Drop (in) 30 Sampler Hammer Weight (lbs) 140 Safety Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Coring ( (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 136. 10 20 30 40 Started Drilling at 6/24/2020 11/ 11/ 6" Orangish brown fine-medium SAND, some silt, SS 3 135. S-1 at 0ft some roots 2 (moist) [TOPSOIL] 17 3 Orangish brown SILT, some fine sand, trace roots USE.GPJ S-2 at 2ft Light brown fine SAND, some silt (moist) SS 8 3 Auger to 4ft 3 S-3 at 4ft Light brown silty fine SAND, bottom 6 inches mottled 5 ENTERPRISE (moist) S-3 SS 24 5 5 5  $\nabla$ 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown silty fine SAND (wet) 129.2 SS 22 Brown fine-medium SAND, trace silt 11 (wet) Auger to 8ft S-5 at 8ft Brown fine-coarse SAND, trace silt SS 26 S-5 10 (wet) 23 9 50/1 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 28 SS (wet) 41 S-6 15 40 29 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel (wet) 7 S-7 2 12 18 17 Auger to 19.5ft, moderate drilling, some light rig chatter, auger refusal at 18 19.5ft 19 No Recovery S-8 at 19.5ft



Log of Boring A-B-BOR-08 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 136 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Depth N-Value (Blows/ft) Sample Description Coring ( (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 116. 20 Gray to black SCHIST; fine to medium grained; slightly to moderately weathered; extremely close to very 5:24 Removed auger, install 3-inch casing to 19.5ft, clean out casing. close fracture spacing; fractures steeply dipping to 1:37 21 REC=33"/60" =55% C-1 at 19.5ft near horizontal; strong; rock quality very poor [BEDROCK] RQD=0"/60" 2:36 22 23 2:29 3:02 24 NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:51:44 Bottom of boring at 25 6/24/2020 Bottom of Boring Boring backfilled with auger cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 43

Log of Boring A-B-BOR-08A Sheet of 1 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum Elev. + 136 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished 6/23/20 6/24/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck 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/A N/A 14 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 Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 136. 10 20 30 40 Started Drilling at 6/23/2020 8" Orangish brown fine-medium SAND, some silt, some 3 S-1 at 0ft 135.4 5 (dry) [TOPSOIL] 4 SS 6 Orangish brown fine-medium SAND, some silt, trace fine gravel, trace roots USE.GPJ 2 S-2 at 2ft 5 Light brown fine-medium SAND, some silt, trace fine gravel 16 3 Light brown fine-medium SAND, trace silt (dry) Auger to 4ft S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace f-c gravel 11 ENTERPRISE (moist) 13 S-3 SS 8 5 14 13 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, some f-c gravel, trace silt 17 (moist) 20 SS S-4 25 Auger to 8ft 20 8 S-5 at 8ft Brown fine-coarse SAND, some f-c gravel, trace silt 12 (moist) 19 S-5 SS 19 9 35 16 18 Brown fine-coarse SAND, some f-c gravel, trace silt, trace S-6 at 10ft 19 weathered rock fragments SS 13 S-6 (moist) 15 9 20 12 DATA/ 123. 13 Auger to 14ft, moderate drilling S-7 at 14ft Brown to gray silty fine-medium SAND, trace f-c gravel, 33 some weathered rock fragments SS (wet) [TILL] S-7 19 15 41 100 16 Auger to 17ft, hard drilling Gray fine-coarse GRAVEL, some weathered rock fragments (wet) Inferred Top of Bedrock -118.8 S-8 SS- 1 50/3 S-8 at 17ft Bottom of boring at 6/24/2020 18 Soil vapor point installed. Bottom of Boring 19

Log of Boring A-B-BOR-09 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/22/20 6/22/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 12 ft 12 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.) V N/A N/A 10 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 Reid Balkind 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 133. 10 20 30 40 Started Drilling at 6/22/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 2 132. S-1 at 0ft (dry) [TOPSOIL] 2 Light brown silty fine SAND 4 2 (dry) 131.0 S-2 at 2ft Light brown fine-medium SAND, some silt, trace fine gravel 2 SS S-2 13 3 3 4 Auger to 4ft. Brown silty fine-coarse SAND 5 ENTERPRISE S-3 at 4ft (moist) S-3 SS 4 5 5 9 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace f-c gravel 9 (moist) SS 11 S-4 15 12 16 8 Auger to 8ft. Brown fine-coarse SAND, some f-c gravel, trace silt S-5 at 8ft (moist) 14 S-5 SS 13 9 9 8 10 S-6 at 10ft Brown fine-coarse SAND, some f-c gravel, trace silt 12 (wet) SS 9 S-6 4 9 Dark gray fine-coarse SAND, trace fine gravel 34 (wet) [TILL] Inferred Top of Bedrock 12 Auger to 12ft. 120. 50/3 S-7 at 12ft "ILANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA Auger and spoon refusal 13 encountered at 12ft Bottom of boring at Bottom of Boring 6/22/2020 14 Boring backfilled with auger cuttings. 15 16 17 18 19

Log of Boring A-B-BOR-10 Sheet of 2 Proiect 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 6/20/20 6/20/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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. Completion Water Level (ft.) N/A N/A 19 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 Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 135. 10 20 30 40 0 Started Drilling on 6/20/2020 3" Grayish brown fine-medium SAND, some silt, some 135. 3 S-1 at 0ft SS 5 (dry) [TOPSOIL] 10 Grayish brown fine-coarse SAND, trace silt, trace f-c gravel, trace roots SS S-2 at 2ft 3 Grayish brown fine-coarse SAND, trace silt, trace f-c gravel 3 (dry) 3 6 3 Auger to 4ft 9 S-3 at 4ft Gravish brown fine-coarse SAND, some f-c gravel, trace 11 ENTERPRISE silt, trace weathered gravel pieces 11 S-3 SS (dry) 12 5 11 18 129. S-4 at 6ft Grayish brown fine-coarse SAND, trace silt, trace f-c 100/5 3 100/5 gravel, trace weathered gravel pieces (dry) [TILL] 7 Auger to 8ft, moderate drilling 8 S-5 at 8ft, switch to auto Grayish brown fine-medium SAND, some silt, trace f-c 16 gravel, trace weathered gravel pieces hammer 17 SS (moist) [TILL] 19 9 39 33 S-6 at 10ft Grayish brown fine-medium SAND, some silt, trace f-c 17 gravel, trace weathered gravel pieces SS 44 (moist) [TILL] S-6 41 41 12 13 14 Auger to 15ft, moderate drilling S-7 at 15ft Grayish brown silty fine-medium SAND, trace f-c gravel, SS 13 trace weathered gravel pieces 21 (moist) [TILL] S-7 17 41 17 18 Auger to 20ft, moderate drilling, auger plug wet at 19



A-B-BOR-10 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135.5 (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 40 115. 20 Grayish brown silty fine-medium SAND, some f-c gravel, S-8 at 20ft trace weathered gravel pieces SS 25 S-8 (wet) [TILL] 18 21 19 21 Grayish brown clayey fine-medium SAND, some platey rock fragments (wet) [WEATHERED ROCK] Inferred Top of Bedrock 22 Auger to 23ft, hard drilling 23 S-9 at 23ft S-9 SS- 1 100/3 100/3 Split spoon and auger NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101011_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:51:53 AM refusal Bottom of Boring 24 Bottom of boring on 6/20/2020 25 Boring backfilled with auger cuttings 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

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Project						Project No.											
Location	ŀ	Hudson Logistics Ce	151010101 Elevation and Datum														
	59 Steele Road, Hudson NH						Elev. + 139 (NGVD29)										
Drilling Company						tarted		0/5/0	•	Date	e Finished	0/5/00					
Seaboard Drilling, Inc Drilling Equipment						etion De	pth	6/5/2	U	6/5/20 Rock Depth							
J		Diedrich D50						24	ft		•	24 ft					
Size and Type of Bit 4in Hollow Stem Auger				Number of Samples Disturbed				9	Undisturbed Core			_					
Casing Diameter (in)		Casing Depth (ft)		Water Level (ft.)		)	First		- 1	Completion	24 HR.						
Casing Ha		N/A	Weight (lbs)	Drop (in) _{N/A}		Forema	′	$\bar{\Delta}$	9.5		▼ N/A	<u> </u>	N/A				
Sampler			Weight (IBS) N/A	N/A			Je	eff Nitsch									
Sampler I		2-inch-diameter split	Weight (lhs)	Drop (in)	Field E	ngineer	_	I O!-4!									
· ·		Automatic	140	Biop (iii) 30	1		18	aylor Sisti Sample l			_						
	Elev. (ft)		Sample Description		De	epth ale	be	Type (in) N-Va (Blows) 10 20 3			/alue Remarks ws/ft) (Drilling Fluid, Depth of Casi						
I F	139.0						Ļ	Per es	10 20	30 40	Fluid Loss, Drilling Resistance, etc.						
7, 1/2 V. 1/2	138.7	4" Dark brown to be some roots	prown fine-medium SAI	ND, some silt,	冿 `	5-1 -	A				Started Drilli S-1 at 0ft	ng at 6/5/	2020				
		(dry) [TOPSOIL]	m SAND, trace silt, trac	e fine gravel	_/ <u>├</u> .	1 🚽	SS		7								
		trace roots	ii onind, liace siil, liac	o inie graver,	Ė	S-1	В	5									
		(dry) Brown fine-coarse	SAND, trace silt		F 2	2 🛨		3	7		S-2 at 2ft						
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					F	3"		7			Auger to 4ft						
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		(moist)			E,	5-3 S-3	SS	91 6	12•								
					E,	9 <u> </u>	S	1 1									
		Brown fine-mediu	n SAND, trace silt		<u> </u>	6 🛨		5	4		S-4 at 6ft						
		(moist)	ii o, ii vb, ii doo oiii		E	=	.   .										
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		. ,				S-55	SS	4 6 6 6	12								
					¥.	<b>=</b> _	<u> </u>	6									
		Brown fine-coarse (wet)	SAND, some f-c grave	el, trace silt	E 1	0 =		4	7		S-6 at 10ft						
		(**************************************			E 1	1 = 95	SS	8 6	15								
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						Ĭ ‡					Auger to 14f	ı, easy dri	iiing				
		Brown fine-coarse	SAND, some f-c grave	el, trace silt	<u> </u>	4 🖶	╁	5			S-7 at 14ft						
		(wet)	, • <b>9.4</b> ••	,	ŧ.	_ ‡_					Decomposed tip	d rock in s	spoon				
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1///			-medium SAND, some	f-c gravel, trace	<u> </u>	9 =	+-	1 44			S-8 at 19ft						
1///		silt (wet) [WEATHER!	ED ROCKI		E	- S	SS	<u>∞</u> 11 25									
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Log of Boring A-B-BOR-11 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (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 40 119.0 20 SS S-8 9 44 21 22 23 Auger to 24ft, hard drilling, No Recovery some light rig chatter Inferred Top of Bedrock NLANGAN.COMIDATA/BOSIDATA1/1510101010/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS\1510101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:51:57 AM ... 24 S-9 at 24ft Auger and split spoon S-9 SS 0 50/1 refusal at 24ft 25 Bottom of boring at 6/5/2020 Boring backfilled with auger Bottom of Boring 26 cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-12 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/4/20 6/5/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill 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. Completion Water Level (ft.) N/A N/A 20 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 137 10 20 30 40 Started Drilling at 6/4/2020 Brown fine-medium SAND, trace silt 3 S-1 at 0ft (moist) [TOPSOIL] SS 3 S-1 17 6 S-2 at 2ft Brown fine-medium SAND, some silt SS (moist) 6 15 3 6 Auger to 4ft Brown fine-medium SAND, trace silt 4 ENTERPRISE S-3 at 4ft (moist) 5 S-3 SS 20 5 5 6 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 9 (moist) SS S-4 16 8 Auger to 8ft Brown fine-coarse SAND, trace silt 6 S-5 at 8ft (moist) SS S-5 16 9 2 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel SS 26 (moist) [TILL] S-6 22 17 42 Auger to 15ft 12 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace f-m gravel 20 (moist) [TILL] 19 16 S-7 16 20 29 17 Auger to 20ft 18 19



Log of Boring A-B-BOR-12 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137.5 (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 40 117. 20 S-8 at 20ft Brown fine-medium SAND, trace clay, trace silt, trace f-c SS 12 10 S-8 (wet) [TILL] 13 21 12 21 22 Auger to 25ft Inferred Top of Bedrock . Report: 23 Auger Refusal at 23ft Bottom of boring at 6/5/2020 Bottom of Boring NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS\15101010_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:52:00 AM ... Boring backfilled with auger 24 cuttings. 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

A-B-BOR-14 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (NGVD29) Date Started **Drilling Company** Date Finished 6/23/20 6/23/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 21 ft 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. 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 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) 130. 10 20 30 40 Started Drilling at 6/23/2020 6" Dark brown fine SAND, trace silt, trace roots SS 3 129. (dry) [TOPSOIL] S-1 at 0ft 3 Light brown silty fine-medium SAND 6 (dry) 5 GPJ 2 S-2 at 2ft Light brown silty fine-medium SAND 5 5 Light brown fine-medium SAND, trace silt 3 5 Auger to 4ft, Easy Augering 5 S-3 at 4ft Light brown fine-medium SAND, some silt 6 ENTERPRISE (dry) 6 S-3 SS 13 5 8 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, some fine gravel, trace silt SS (moist) S-4 12 Auger to 8ft, Easy Augering 8 S-5 at 8ft Light brown fine-coarse SAND, some fine gravel, trace silt SS (wet) 8 S-5 9 က 11 S-6 at 10ft Light brown gravelly fine-coarse SAND, some silt 9 SS (wet) 5 S-6 4 5 6 12 Auger to 15ft, Easy Augering A1/151010101/PROJECT DATA\ 13 14 S-7 at 15ft Light brown fine-medium SAND, some silt, some f-c gravel SS 6 (wet) [TILL] 21 S-7 4 38 28 17 Auger to 20ft, Hard Augering, Heavy Chattering 18 19



Log of Boring A-B-BOR-14 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 130 (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 -110.0 20 S-8 at 20ft Light brown fine-coarse SAND, some silt, some m-c gravel S-8 (wet) [TILL] 55 Inferred Top of Bedrock NLANGAN.COMDATA/BOSIDATA1/151010101/PROJECT DATAL DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:52:03 AM ... Report. Log - LANGAN 21 108.8 50/3 Auger to 25ft, Hard Augering, Heavy Chattering 22 Auger and Spoon Refusal at Bottom of Boring Bottom of boring at 23 6/25/2020 Boring backfilled with auger cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

A-B-BOR-15 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc. 6/20/20 6/20/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 26.5 ft 22.1 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 9 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 8 N/A Casing HammerAutomatic Drop (in) N/A Drilling Foreman Weight (lbs) N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) Automatic 140 Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Coring ( Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 140. 10 20 30 40 Started Drilling at 6/20/2020 17" Dark brown fine-medium SAND, trace silt, trace 3 S-1 at 0ft 2 (dry) [TOPSOIL] 20 S-1A S 138.6 Light brown fine SAND, trace silt USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt (dry) 2 10 3 2 2 Drive casing to 4.0ft and Brown fine-coarse SAND, trace silt, trace coarse sand SS 4 ENTERPRISE washout with water. (moist) 5 S-3 S-3 at 4ft 12 5 9 16 6 \GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 10 (moist) SS 16 S-4 24 18 22 132.0 8 Drive casing to 8.0ft and Brown fine-coarse SAND, some f-c gravel, trace silt 31 washout with water (wet) [TILL] 32 SS S-5 S-5 at 8ft 9 9 28 20 S-6 at 10ft Brown fine-coarse SAND, some f-c gravel, trace silt 31 (wet) [TILL] SS 28 S-6 ω 32 23 12 13 Drive casing to 14.0ft and Grayish brown fine-coarse SAND, some silt, some f-c 15 gravel, trace weathered gravel (wet) [TILL] washout with water 58 SS S-7 S-7 at 14ft 15 36 31 16 17 18 Brown fine-medium SAND, some silt, trace fine gravel, Drill to 19ft trace weathered gravel 13 လူ 10 S-8 at 19ft (moist) [TILL]



Log of Boring A-B-BOR-15 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 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 40 120.0 20 S-8 10 24 21 S-9 at 21ft Brown fine-medium SAND, some silt, trace f-c gravel, SS 28 trace weathered gravel (moist)[TILL] က် 22 22 Refusal encountered at Light gray to white PEGMATITE; fine to coarse grained; slightly weathered; very close to cloase fractures steeply dipping to near horizontal; strong; 2:30 22.1ft. C-1 at 22.1ft REC=44"/51" =86% '=18% 23 very poor quality 3:10 [BÉDROCK] NQ CORE RQD=9"/51" 24  $\frac{7}{2}$ 5:11 25 3:24 26 1:03 Bottom of boring at NLANGAN, COMIDATA\BOS\DATA1/1510101011PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 6/20/2020 Bottom of Boring Boring backfilled with soil cuttings 28 29 30 31 32 33 34 35 36 37 38 39 43

Log of Boring A-B-BOR-16 Sheet of 1 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 Seaboard Drilling, Inc. 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 18.5 ft 18.5 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 13 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) 140 30 Automatic Reid Balkind Sample Data /22/2020 9:52:09 AM 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 Started Drilling at 7/1/2020 5" Dark brown fine-medium SAND, trace silt, trace roots 134. 3 S-1 at 0ft (dry) [TOPSOIL] SS Light brown fine-coarse SAND, trace silt, trace f-c gravel 4 (moist) 5 USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace f-c gravel 5 5 3 6 6 S-3 at 4ft. Auger and spoon Light gray fine GRAVEL -3 SS 3 70/4 ENTERPRISE 70/4 reusal encountered at 4.5ft (dry) Offset new boring 5ft to the 5 east and auger to 6ft GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft. Brown fine-coarse SAND, trace silt, trace f-c gravel  $\parallel$ s $\parallel$ 24 ω Auger and spoon refusal (dry) 50/3 encountered at 6ft in eastern 7 offset. Offset new boring 5ft North of original location 8 Brown fine-coarse SAND, some f-c gravel, trace silt S-5 at 8ft (moist) SS S-5 4 9 5 17 125. S-6 at 10ft Light brown to gray fine-coarse SAND, trace silt, trace f-c 32 gravel 31 SS S-6 (moist) [TILL] 20 33 31 12 13 Auger to 15t, Hard drilling SS Brown to orange fine-coarse SAND, some silt, some f-c 13 and heavy chatter gravel, trace weathered rock fragments 20 S-7 at 15ft (moist) [TILL] 8 S-7 16 23 17 Brown fine-medium SAND, some f-c gravel, trace silt, trace weathered rock fragments (moist) [TILL] 18 S-8 at 18.5ft. Auger and spoon refusal Inferred Top of Bedrock +116.3 encountered at 18.5ft. 50/2 19 Bottom of boring at 7/1/2020 Boring backfilled with auger Bottom of Boring cuttings



Log of Boring A-B-BOR-17(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/25/20 6/25/20 **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. Completion Water Level (ft.) N/A N/A 10 7.8 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 Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 130. 10 20 30 40 Started Drilling at 6/25/2020 6" Dark brown fine SAND, some silt, trace roots SS 2 129. S-1 at 0ft (dry) [TOPSOIL] 2 Light brown fine SAND, some silt 24 (dry) USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 3 3 4 3 Auger to 4ft, Easy Augering 5 S-3 at 4ft Light brown fine SAND, some silt 9 ENTERPRISE (moist) S-3 SS 19 5 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt (moist) SS 24 12 Brown fine-coarse SAND, some fine gravel, trace silt Auger to 8ft, Easy Augering S-5 at 8ft Brown fine-coarse SAND, some fine gravel, trace silt SS 3 (moist) S-5 9 က 7 10 S-6 at 10ft Brown fine-coarse SAND, some fine gravel, trace silt 8 (wet) SS 8 S-6 15 8 7 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft Brown fine-coarse SAND, trace silt, some fine gravel SS (wet) 100/4 100/4 Auger to 20ft, Moderate 16 Augering, Medium Chattering 17 18 19



Log of Boring A-B-BOR-17(OW) Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (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 -110.0 20 S-8 at 20ft Brown fine-medium SAND, some silt, trace fine gravel SS 10 (wet) [TILL] 32 S-8 4 21 83 51 43 22 Auger to 25ft, Moderate Augering, Medium Chattering 23 24 25 S-9 at 25ft Brown sandy fine GRAVEL 53 (wet) [TILL] 20 8-9 26 က 14 28 Auger to 30ft, Moderate Augering, Medium Chattering 28 Brown fine-coarse SAND, some silt, some fine gravel 29 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ (wet) [TILL] Auger Refusal at 29.5ft. Inferred Top of Bedrock _S-10|SS⊟ 6 |100/5 100. 100/5 S-10 at 29.5ft 30 Bottom of boring at 6/25/2020 31 Observation well installed. Bottom of Boring Refer to well construction 32 33 34 35 36 37 38 39 40 43



A-B-BOR-18 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130.5 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/24/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 33.5 ft 33.5 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 9 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 Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 130 10 20 30 40 Started Drilling on 6/24/2020 11/1/1/ 5" Light brown fine-medium SAND, some silt, some roots 2 -130. S-1 at 0ft (moist) [TOPSOIL] 3 Light brown SILT, some fine sand, Trace roots 17 3 (moist) Light brown sandy SILT GPJ 2 (moist) S-2 at 2ft USE 3 Light brown silty fine SAND SS 3 (moist) 7 3 Auger to 4ft 5 S-3 at 4ft Light brown silty fine SAND, Bottom 3 inches mottled 6 ENTERPRISE (moist) 6 S-3 SS 48 5 6 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown silty fine SAND, Top half mottled 5 (moist) SS 22 8 Auger to 8ft 122.7 Light brown fine-coarse SAND, trace silt, trace fine gravel S-5 at 8ft 10 (moist) Brown fine-coarse SAND, trace silt, trace fine gravel SS 16 9 5 8 10 S-6 at 10ft SS Brown fine-coarse SAND, trace fine gravel, trace silt 4 (wet) S-6 2 7 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling, add water to auger 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel (wet) 7 19 S-7 23 21 17 18 Auger to 20ft, easy drilling, fill auger with water 19



Log of Boring A-B-BOR-18 Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130.5 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) -110.5 10 20 30 40 20 S-8 at 20ft Brown fine-coarse SAND, some f-c gravel, trace silt (wet) SS 9 24 21 12 52 22 23 Auger to 25ft, easy drilling, fill auger with water 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt, trace f-c gravel (wet) 6 26 SS 21 24 104. Brown to brown fine-medium SAND, some silt, trace fine 53 gravel Auger to 28ft, hard drilling, (wet)[TILL] auger grinding at 28ft 28 S-10 at 28ft Brown silty fine-medium SAND, trace fine gravel, trace SS 29 weathered gravel pieces 62 S-10 (wet) [TILL] 16 29 28 24 30 31 Auger to 33.5, hard drilling, auger refusal at 33.5ft 32 Gray fine-medium SAND, some silt, trace fine gravel, rock fragment in spoon tip (wet) [TILL] 33 \\LANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTL Inferred Top of Bedrock +96.8 S-11 at 33.5ft 11 SS 50/2 34 Bottom of boring on Bottom of Boring 6/25/2020 Boring backfilled with auger 35 cuttings 36 37 38 39 43

Log of Boring **A-B-BOR-19** Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/23/20 6/23/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 9 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. 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 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) 132. 10 20 30 40 Started Drilling on 6/23/2020 8" Brown fine-medium SAND, some silt, some roots 2 S-1 at 0ft 131. (dry)[TOPSOIL] 3 Brown silty fine SAND, trace roots 16 3 (dry) 3 S-2 at 2ft Brown fine SAND, some silt 3 (moist) SS 4 15 3 3 4 S-3 at 4ft Brown fine SAND, some silt 5 ENTERPRISE (moist) 7 127. 8 5 Brown fine-coarse SAND, trace silt, trace f-c gravel 33 (moist) 16 126. 6 S-4 at 6ft Brown gravelly fine-coarse SAND, some silt, trace 22 weathered rock pieces SS 19 S-4 (moist)[TILL] 10 7 32 Auger to 8ft 36 8 S-5 at 8ft Brown fine-medium SAND, some silt, trace f-c gravel, trace SS 26 S-5 10 weathered rock pieces 28 (moist)[TILL] /\LANGAN.COM\DATA\BOS\DATA1\1510101\PROJECT DATA\ DISCIPLINE\GEOTECHNICAI -122.9 9 Auger and split spoon Bottom of Boring refusal at 9ft, obstruction encountered, offset boring. 10 Refer to boring log A-B-BOR-19A. Bottom of boring at 6/23/2020 Boring backfilled with auger 12 cuttings 13 16 18 19

Log of Boring A-B-BOR-19A Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132 (NGVD29) **Drilling Company** Date Started Date Finished 6/23/20 6/24/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 18 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. 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 Number Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 132. 10 20 30 40 0 Started Drilling on 6/23/2020 Brown fine - medium SAND, some silt, some roots (dry) [TOPSOIL] 131.3 Brown silty find SAND, trace roots Offset 5ft south from boring (dry) A-B-BOR-19, auger to 10ft Brown fine SAND, some silt (moist) 3 Brown fine SAND, some silt ENTERPRISE (moist) 127.0 5 Brown fine - coarse SAND, trace silt, trace f-c gravel (moist) 6 \GINTLOGS\151010101 Brown fine-medium SAND, some silt, trace f-c gravel, trace weathered rock pieces (moist) [TILL] 8 Brown fine-medium SAND, some silt, trace f-c gravel, trace weathered rock pieces (moist) [TILL] 9 SS S-1 at 10ft Brown silty fine-coarse SAND, some f-c gravel, trace 28 weathered gravel and rock pieces 41 (moist) [TILL] 15 Ŝ 40 29 12 13 Auger to 15ft, hard drilling, some light rig chatter S-2 at 15ft Brown silty fine-coarse SAND, trace f-c gravel, some SS 32 S-2 weathered gravel and pieces 47 (wet) [TILL] 16 Auger to 18ft, hard drilling, some light-medium rig chatter, auger walking, 17 inferred boulder, auger refusal 18 S-3 at 18ft, spoon refusal -113.8 Brown to gray silty fine-coarse SAND, trace f-c gravel, S-3 SS 2 100/2 Bottom of boring at some weathered gravel and pieces 6/24/2020 (wet) [TILL] 19 Boring backfilled with auger **Bottom of Boring** cuttings



Log of Boring A-B-BOR-20(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/22/20 6/22/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 25 ft 25 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 11.9 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) 135. 10 20 30 40 Started Drilling at 6/22/2020 7" Dark brown fine-medium SAND, trace silt, trace roots 2 134. S-1 at 0ft (dry) [TOPSOIL] 2 15 Light brown silty fine-medium SAND (dry) USE.GPJ S-2 at 2ft Brown fine-coarse SAND, some fine gravel, trace silt SS 16 3 S-3 at 4ft. Auger to 4ft Brown fine-medium SAND, some silt, trace f-c gravel 4 ENTERPRISE (dry) S-3 SS 12 5 8 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt, trace f-c gravel (dry) SS S-4 13 12 8 Auger to 8ft. S-5 at 8ft Brown fine-coarse SAND, trace silt, trace f-c gravel 3 (moist) SS S-5 9 8 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace f-c gravel (moist) SS S-6 4 7 12 DATA\ 13 121. 14 Auger to 15ft. Easy drilling. Grayish brown fine-coarse SAND, some silt, trace f-c SS 14 S-7 at 15ft gravel, trace weathered gravel 18 (wet) [TILL] 15 S-7 16 20 22 17 18 19



Log of Boring A-B-BOR-20(OW) 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 N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 -115. 20 Auger to 20ft. Moderate Grayish brown fine-coarse SAND, some silt, trace f-c SS drilling and light chatter. gravel, trace weathered gravel 13 S-8 S-8 at 20ft (wet) [TILL] 4 21 18 18 22 23 24 No Recovery NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:52: Inferred Top of Bedrock 25 S-9 SS 0 50/3 Auger to 25ft. Moderate 109 drilling. Heavy chatter at 25ft. Spoon refusal encountered 26 at 25ft. S-9 at 25ft Bottom of boring at Bottom of Boring 6/22/2020 Observation well installed. 28 Refer to well construction 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring A-B-BOR-20A 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 6/23/20 6/24/20 **Drilling Equipment** Completion Depth Rock Depth George 7822Dt 31 ft 31 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. First Completion Water Level (ft.) 4in 30 15 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 Ben Crary 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 Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 135. 10 20 30 40 Started Drilling at 6/23/2020 6" Dark brown fine-coarse SAND, some organic silt SS 3 134. S-1 at 0ft (dry) [TOPSOIL] 6 Light brown silty fine-coarse SAND, trace fine gravel 19 5 5 SS S-2 at 2ft. Light brown fine-coarse SAND, trace silt, trace fine gravel Roller bit and drive casing to 5 4ft, begin drilling with water, 3 6 Easy drilling 5 S-3 at 4ft. Light brown fine-coarse SAND, trace silt 5 ENTERPRISE (moist) 5 S-3 SS ω 5 8 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft SS Light brown fine-coarse SAND, trace silt 12 13 8 Light brown fine-coarse SAND, trace silt, trace fine gravel 15 Roller bit and drive casing to Light brown fine-coarse SAND, trace silt, trace fine gravel 8ft, Easy drilling. (moist) 10 S-5 SS S-5 at 8ft 9 ω 11 11 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 18 (moist) SS 13 S-6 16 14 14 12 Roller bit and drive casing to A1/151010101/PROJECT DATA\ Easy to medium drilling, 13 Light Rig Chatter 14 120.0 Light grayish brown fine-coarse SAND, some silt, trace fine S-7 at 15ft. SS 45 Roller bit and drive casing to gravel, weathered rock fragments 30 20ft. Easy to medium (wet) S-7 16 17 34 drilling, Light Rig Chatter. 87 17 18 19



A-B-BOR-20A Log of Boring Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 115. 20 S-8 at 20ft. Light grayish brown fine-coarse SAND, some silt, trace f-c Roller bit and drive casing to gravel, trace weathered rock fragments SS 39 25ft. Easy to medium drilling, 19 21 50 Light Rig Chatter. Weathered cobble at 50 26.75-27ft 22 23 24 25 S-9 at 25ft. Light grayish brown fine-coarse SAND, some silt, trace f-c 23 gravel, trace weathered rock fragments (wet) Roller bit and drive casing to SS 22 30ft, Easy to medium drilling, 16 26 Light Rig Chatter. 59 64 28 29 Light grayish brown fine-coarse SAND, some silt, trace fine 30 S-10 at 30ft S-10 60 gravel (wet) 9 Inferred Top of Bedrock 75/5 **2222**+104.0 31 Bottom of boring at VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 6/24/2020 Install soil vapor point. 32 Bottom of Boring 33 34 35 36 37 38 39 43



A-B-BOR-21 Log of Boring 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 6/20/20 6/20/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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. First Completion Water Level (ft.) 19.5 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) 138. 10 20 30 40 0 Started Drilling at 6/20/2020 4" Dark brown fine SAND, trace silt, trace roots SS 137. 3 (dry) [TOPSOIL] S-1 at 0ft 5 13 Light brown fine-medium SAND, some silt 6 6 SS S-2 at 2ft Light brown fine-coarse SAND, some f-c gravel, trace silt 11 S-2 16 3 10 134. Auger to 4ft Light brown SILT, some fine-coarse SAND, some f-c gravel 8 ENTERPRISE S-3 at 4ft (dry) SS 10 S-3 5 17 12 13 -132.0 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, some silt, trace f-c gravel 15 (dry) SS 18 S-4 20 36 27 8 Auger to 8ft Brown fine-medium SAND, some silt, trace f-c gravel 36 S-5 at 8ft (dry) 30 9 -5A S 24 40 Light gray fine SAND, some f-c gravel, trace silt 37 10 S-6 at 10ft Brown fine-medium SAND, some silt, trace f-c gravel 36 (dry) SS 52 S-6 21 103 51 44 12 BOS\DATA1\151010101\PROJECT DATA\ 13 14 123.0 Auger to 15ft. Hard drilling SS Brown fine-medium SAND, some silt, trace f-c gravel, trace 36 from 13ft weathered gravel 46 S-7 2 S-7 at 15ft (dry) [TILL] 16 62 17 18



Log of Boring A-B-BOR-21 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 138 (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.) +118.0 10 20 30 40 20 117.8 Gray coarse GRAVEL (wet) [BEDROCK] Auger to 20ft S-8 SS 50/2 S-8 at 20ft. Auger and spoon refusal at 20ft NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010] ENTERPRISE_BORINGS_USE.GFJ....7/22/2020 9:52:32 AM ... Report. Log - LANGAN 21 Bottom of Boring Bottom of boring at 6/20/2020 Boring backfilled with auger 22 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

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Log of Boring A-B-BOR-22 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 144 (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 40 124.0 Light grayish brown gravelly fine-coarse SAND, trace silt (wet) [TILL] S-9 at 20ft S-9 SS 100/2 21 22 23 Auger to 24.5ft, hard drilling, some light to medium rig No Recovery chatter 24 Inferred Top of Bedrock NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ....7/22/2020 9:52:35 S-10 at 24.5ft
Auger and spoon refusal at 10 SS 0 25 24.5ft Bottom of Boring Bottom of boring at 26 6/19/2020 Boring backfilled with auger cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-23 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 145 (NGVD29) Date Started **Drilling Company** Date Finished 6/4/20 6/4/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 21.5 ft 21.5 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 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 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 6/4/2020 24" Brown fine-medium SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] SS 2 <u>۲</u> 16 3 3 S-2 at 2ft Brown fine-medium SAND, trace silt 19 3 Auger to 4ft Brown fine-medium SAND, trace silt 4 ENTERPRISE S-3 at 4ft (moist) 3 S-3 24 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine SAND, trace silt 3 (moist) SS S-4 6 8 Auger to 8ft Brown fine-coarse SAND, trace silt 6 S-5 at 8ft (moist) SS S-5 12 9 6 10 S-6 at 10ft Brown fine-coarse SAND, trace silt 11 (moist) SS 10 S-6 8 11 15 12 Auger to 15ft -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt 5 (moist) 6 S-7 16 12 10 17 Auger to 20ft 18 19



Log of Boring A-B-BOR-23 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 145 (NGVD29) 59 Steele Road, Hudson NH 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 -125.0 20 S-8 at 20ft Brown fine-medium SAND, trace silt, trace fine gravel SS 16 (moist) [TILL] S-8 15 45 NLANGAN.COMDATA/BOSIDATA1/151010101/PROJECT DATAL DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:52:38 AM ... Report. Log - LANGAN 21 Inferred Top of Bedrock 28 22 Auger Refusal at 22ft Bottom of boring at 6/4/2020 Boring backfilled with auger Bottom of Boring 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-24 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 138 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 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/A N/A 15 N/A Casing Hammer N/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 Reid Balkind 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 138. 10 20 30 40 0 Started Drilling at 7/1/2020 5" Dark brown fine-medium SAND, trace silt, trace roots SS 137. S-1 at 0ft (dry) [TOPSOIL] 2 Light brown fine-medium SAND, some silt 16 2 (moist) 2 USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 4 3 2 Auger to 4ft Light brown fine SAND, some silt, trace fine gravel 2 ENTERPRISE S-3 at 4ft (dry) S-3 SS 17 5 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine SAND, some silt 8 (dry) SS S-4 8 8 8 Auger to 8ft Light brown fine SAND, some silt S-5 at 8ft (moist) SS 16 9 6 6 S-6 at 10ft Light brown fine-medium SAND, some silt 8 (moist) S-6 8 9 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 124.0 Auger to 15ft, Easy drilling SS Brown fine-coarse SAND, trace silt, trace fine gravel 9 S-7 at 15ft (wet) 5 7 S-7 16 3 17 18 19



A-B-BOR-24 Log of Boring 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 N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 -118.0 20 Auger to 20ft Brown fine-coarse SAND, trace silt, trace fine gravel SS S-8 at 20ft (wet) 3 S-8 4 21 3 18 22 Brown fine-coarse SAND, trace silt, trace fine gravel, trace 23 weathered gravel (wet)[TILL] Inferred Top of Bedrock S-9 at 23ft. S-9 SS 2 50/2 Auger and spoon refusal NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:52:41 AM . encountered at 23ft. 24 Bottom of boring at 7/1/2020 Boring backfilled with soil to Bottom of Boring 25 grade 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

A-B-BOR-25 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/25/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 19 ft 19 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 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 (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 131. 10 20 30 40 Started Drilling at 6/25/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 130.7 (moist) [TOPSOIL] S-1 at 0ft SS Brown fine SAND, some silt (dry) 2 SS S-2 at 2ft Brown fine SAND, some silt 3 1_{S-1B} (dry) 2 8 3 Drive casing to 4.0ft Drill to 4.0ft, Easy drilling S-3 at 4ft Brown fine SAND, some silt 9 ENTERPRISE (dry) 7 S-3 SS 10 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, some silt 5 (dry) SS S-4 10 Open hole 6 Drill to 8.0ft, Easy drilling 8 S-5 at 8ft Brown fine-medium SAND, some silt 6 (moist) SS 12 9 8 S-6 at 10ft Brown fine-medium SAND, some silt 9 (moist) SS S-6 10 6 12 Open hole Drill to 15.0ft, Easy drilling \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 S-7 at 15ft SS Brown fine-coarse SAND, some fine gravel, trace silt 6 6 S-7 2 5 17 Open hole Drill to 19.0ft, Very heavy rig chatter a 18.0ft 18 No Recovery S-8 at 19ft Inferred Top of Bedrock Bottom of boring at 19 S-8 SS 0 50/0 6/25/2020. Boring backfilled Bottom of Boring with soil cuttings

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A-B-BOR-26 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 131 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth 19 ft 19 ft Truck Rig 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 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 131. 10 20 30 40 0 Started Drilling at 7/1/2020 Dark brown fine-medium SAND, trace silt, trace roots 130. 2 S-1 at 0ft (moist) [TOPSOIL] SS 2 23 Light brown fine-medium SAND, some silt 3 SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 3 16 3 Auger to 4ft. Easy drilling 127.0 S-3 at 4ft Light brown fine-medium SAND, trace silt SS 3 ENTERPRISE (moist) 3 S-3 16 5 5 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 6 SS (moist) S-4 20 Auger to 8ft. Light rig chatter 9 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS S-5 4 9 8 6 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 (wet) SS S-6 20 10 10 12 Auger to 15.0ft. Light rig \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-7 12  $\mathbb{R}^{\mathbb{R}}$ (wet) 50/2 50/2 16 17 Auger to 20ft. Heavy rig chatter. Auger refusal at 19ft 18 Inferred Top of Bedrock 112.0 19 Bottom of boring at 7/1/2020 Boring backfilled with auger Bottom of Boring cuttinas



A-B-BOR-27 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131 (NGVD29) Date Started **Drilling Company** Date Finished 7/1/20 7/1/20 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. 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 Sam Deangelis 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 131. 10 20 30 40 0 Started Drilling at 7/1/2020 3" Dark brown fine-medium SAND, trace silt, trace root -130.8 2 S-1 at 0ft (moist)[TOPSOIL] SS 2 20 Light brown fine SAND, some silt, trace roots 3 SS S-2 at 2ft Light brown fine SAND, some silt 3 3 8 3 Auger to 4ft. Easy drilling 127.0 S-3 at 4ft Brown fine-coarse SAND, trace silt 3 ENTERPRISE (moist) 3 S-3 SS 24 5 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt 10 SS (moist) S-4 Auger to 8ft. Easy drilling 8 S-5 at 8ft Brown fine-coarse SAND, trace silt (wet) SS S-5 16 9 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 4 (wet) 5 S-6 20 6 5 12 Auger to 15.0ft. Light rig COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel (wet) 5 15 S-7 16 21 23 17 Auger to 20ft. Moderate rig 18 19



Log of Boring A-B-BOR-27 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 131 (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 -111. 20 S-8 at 20ft Brown fine-coarse SAND, some fine gravel, some silt SS (wet) [TILL] 22 18 21 39 40 22 Auger to 25ft. Moderate rig 23 24 25 S-9 at 25ft Brown fine-coarse SAND, some fine gravel, trace silt (wet) [TILL] SS 6 12 26 9 Auger to 30ft. Heavy rig chatter 28 29 30 S-10 at 30ft Brown fine-coarse SAND, some fine gravel, same silt 20 (wet) [TILL] 25 20 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 26 40 +99.0 32 Bottom of boring at 7/1/2020 Boring backfilled with auger Bottom of Boring cuttings. 33 34 35 36 37 38 39 43

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Log of Boring A-B-BOR-28 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 136.5 (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 -116.5 20 S-7 at 20ft. Roller bit to 25ft. Light brown fine-coarse SAND, some silt, trace f-m gravel SS Medium to hard drilling (wet) [TILL] 26 medium to heavy rig chatter. S-7 21 22 15 22 Hard drillg starting at 22ft. Based on cuttings and diffculty of drilling, bedrock likely begins at 22ft. 23 24 No Recovery NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ....7/22/2020 9:52:55 Inferred Top of Bedrock 25 S-8 SS 0 S-8 at 25ft 50/0 Bottom of boring on Bottom of Boring 6/24/2020 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 43

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Log of Boring A-B-BOR-29 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished 6/22/20 6/22/20 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 16.5 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 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 6/22/2020 5" Brown fine-medium SAND, some silt, some roots 5 -140. S-1 at 0ft (dry) [TOPSOIL] Brown fine-medium SAND, some silt, trace roots 16 4 (dry) Brown fine-coarse SAND, trace silt, trace fine gravel 5 GPJ S-2 at 2ft 5 Brown fine-coarse SAND, trace silt, trace fine gravel SS 6 S-2 15 (dry) 3 Auger to 4ft 9 4 S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel SS 10 ENTERPRISE 12 S-3 15 5 11 11 6 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 15 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 (dry) 15 SS 13 15 Auger to 8ft Brown fine-medium SAND, trace silt 14 8 (dry) S-5 at 8ft 8 Brown fine-coarse SAND, some fine gravel, trace silt 11 (dry) SS 17 9 23 12 14 10 S-6 at 10ft Brown fine-medium SAND, trace silt, trace fine gravel 18 (dry) 19 129. 8 Brown silty fine-medium SAND 22 129.0 22 12 Brown fine-coarse SAND, some f-c gravel, trace silt (moist) 13 DATA\ 14 BOS/DATA1/151010101/PROJECT Auger to 15ft, easy drilling 15 S-7 at 15ft Brown fine-coarse SAND, some f-c gravel, trace silt 15 Bottom 6 inches of sample (moist) 14 SS wet 16 S-1 4 16  $\nabla$ 8 17 Auger to 19ft, moderate 122. 18 drilling. Auger refusal at 19ft. Brown silty fine-medium SAND, trace f-c gravel S-8 at 19ft, spoon refusal at (wet) [TILL] 19.8ft. Platey rock fragments S-8 51 SS Inferred Top of Bedrock 2 in spoon tip 50/3 ·Bottom of boring at 20 6/22/2020. Boring backfilled Bottom of Boring with auger cuttings.

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A-B-BOR-30 Log of Boring Sheet of 2 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/23/20 6/23/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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. 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 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) 143. 10 20 30 40 Started Drilling at 6/23/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 3 142. S-1 at 0ft (dry) [TOPSOIL] 3 Light brown silty fine SAND, some silt, trace fine gravel 21 S-2 at 2ft Brown fine-coarse SAND, trace silt, trace fine gravel 5 SS (moist) 5 16 3 6 Auger to 4ft Brown fine-coarse SAND, trace silt 4 ENTERPRISE S-3 at 4ft (moist) 8 S-3 SS 15 5 8 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt 10 (moist) SS 10 S-4 16 9 8 Auger to 8ft Brown fine-coarse SAND, trace silt 8 S-5 at 8ft (moist) SS 16 9 8 11 S-6 at 10ft Brown fine-coarse SAND, trace silt 9 (moist) SS 10 S-6 12 12 12 COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, Easy drilling SS Brown fine-coarse SAND, trace silt, trace f-c gravel S-7 at 15ft (wet) 12 S-7 16 ω 14 14 17 18 124. 19



Log of Boring A-B-BOR-30 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 N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 123.0 20 Grayish brown fine-medium SAND, some silt, trace f-c Auger to 20ft, Moderate drilling gravel, trace weathered gravel SS 36 S-8 S-8 at 20ft (wet) [TILL] 18 21 47 49 22 23 24 25 Auger to 25ft, Moderate Grayish brown fine-medium SAND, some silt, trace f-c 20 drilling, Light chatter S-9 at 25ft gravel, trace weathered gravel (wet) [TILL] SS 20 16 23 28 No Recovery Inferred Top of Bedrock Auger to 29ft S-10 SS 0 50/1 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ Bottom of Boring S-10 at 29ft Auger and spoon refusal 30 encountered at 29.0ft Bottom of boring at 6/23/2020 9:20 AM 31 Boring backfilled with auger cuttings. 32 33 34 35 36 37 38 39 43



Log of Boring A-B-BOR-31 Sheet of 2 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 SoilTesting, Inc. 6/19/20 6/19/20 **Drilling Equipment** Completion Depth Rock Depth ATV Mounted CME 550X 28 ft 28 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 20 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 Automatic Justin Hall Sample Data /22/2020 9:53:05 AM 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 6/19/2020 6" Dark brown fine-coarse SAND, some silt, trace roots SS S-1 at 0ft (moist) [TOPSOIL] 3 15 Light brown fine-coarse SAND, trace silt (dry) 3 USE.GPJ S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 3 3 6 Light brown fine-medium SAND, trace silt 3 (dry) Auger to 4ft Light brown fine-medium SAND, trace silt 20 ENTERPRISE S-3 at 4ft (dry) 10 17 5 Light brown fine-coarse SAND, trace fine gravel, trace silt 5 (dry) 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 10 (dry) SS 10 S-4 17 9 8 Auger to 8ft Light brown fine-coarse SAND, trace silt 9 S-5 at 8ft (dry) SS 4 9 7 10 SS S-6 at 10ft Light brown fine-coarse SAND, trace silt 10 (dry) Light brown fine-coarse SAND, trace silt, trace fine gravel 10 (moist) 15 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft SS Light brown fine-coarse SAND, trace silt, trace fine gravel 8 S-7 at 15ft 15 S-7 8 17 18 19



A-B-BOR-31 Log of Boring Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 144.5 (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 40 124. 20 Auger to 20ft Dark grayish brown fine-coarse SAND, some silt, trace fine S-8 S-8 at 20ft ω 15 (wet) [TILL] 21 100/3 S-9 at 21.25ft Light brown fine-coarse SAND, some silt, trace fine gravel SS 39 Weathered cobble at 21.75' (wet) [TILL] 22 Auger to 25ft 41 9 Light rig chatter 20-26ft. က် 47 23 56 24 25 S-10 at 25ft Light brown fine-coarse SAND, some silt, trace fine gravel 10 Light to medium rig chatter (wet) [TILL] 12 25-28ft 19 26 15 Light brown fine-coarse SAND, trace silt 13 (wet) [TILL] Inferred Top of Bedrock VLANGAN.COMIDATA\BOS\DATA1/151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\/151010101_ENTERPRISE_BORINGS 28 Auger refusal at 28ft Bottom of boring at 6/19/2020 29 Bottom of Boring Boring backfilled with auger cuttings. 30 31 32 33 34 35 36 37 38 39 43



Log of Boring A-B-BOR-32 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 141.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/14/20 6/14/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7720 DT 28 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) Completion Water Level (ft.) 4in 10 10.4 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 Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 141 10 20 30 40 6" Dark brown fine-medium SAND, some silt, some roots (dry) [TOPSOIL] S-1 at 0.5ft Light brown fine-medium SAND, trace silt, trace fine gravel 12 5 (dry) [FILL] 3 SS S-2 at 2ft Brown fine-coarse SAND, trace silt (moist) [FILL] 3 4 3 12 137. Drive casing to 4.0ft 4" Dark brown fine-medium SAND, some silt, trace roots 137.2 20 ENTERPRISE (moist) [HISTORIC TOPSOIL] S-3 at 4ft 11 Brown fine-coarse SAND, trace silt SS 5 12 (moist) 9 9 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Switch to mud rotary Brown fine SAND, trace silt 5 technique (moist) SS S-4 S-4 at 6ft 8 Open hole to 8ft, easy drilling Brown fine SAND, some silt S-5 at 8ft (moist) S-5 SS 9 6 12 11 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 6 (wet) SS 8 S-6 ω 10 10 12 13 Open hole to 14ft, easy to Brown fine-coarse SAND, some silt, some fine gravel 15 moderate drilling (wet) 15 SS S-7 S-7 at 14ft ω 17 18 16 17 18 Open hole to 19ft, moderate Brown some fine-coarse SAND, some silt, some fine gravel SS 2 S-8 drilling. (wet)



Log of Boring A-B-BOR-32 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 141.5 (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 40 121. 20 SS S-8 10 21 22 23 7/22/2020 9:53:10 AM 24 Open hole to 24ft, moderate Brown fine-coarse SAND, some silt, some fine gravel drilling. S-9 at 24ft (wet) SS 25 32 26 USE.GPJ No Recovery SS S-10 Inferred Top of Bedrock 0 Open hole to 27ft. /\LANGAN.COM/DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_ 28 Roller bit refusal. -113.3 50/2 S-10 at 27ft Bottom of Boring at 29 6/14/2020 Bottom of Boring Boring backfilled with soil cuttings. 30 31 32 33 34 35 36 37 38 39 43



A-B-BOR-33 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134.5 (NGVD29) Drilling Company Date Started Date Finished Atlantic Testing Laboraties 6/24/20 6/24/20 **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 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 10.9 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) Scale 134. 10 20 30 40 0 Started Drilling on 6/24/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 134. (moist) [TOPSOIL] S-1 at 0ft 4 Brown fine SAND, some silt, trace roots 2 GPJ SS S-2 at 2ft Brown SILT, some fine sand, trace roots 2 BORINGS USE. 3 3 Drill to 4.0ft. Drive casing to 5 4.0ft. Easy drilling 6 130. S-3 at 4ft Brown fine SAND, some silt 10 ENTERPRISE (dry) 6 S-3 SS 10 5 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, some silt 4 (dry) SS S-4 Drill to 8.0ft. Easy drilling 8 10 8 S-5 at 8ft Brown fine SAND, some silt (dry) SS S-5 9 ω 12 9 10 S-6 at 10ft Brown fine SAND, some silt 6 (moist) SS 6 S-6 12 9 12 Drill to 15.0ft. Easy drilling |LANGAN.COM|DATA|BOS|DATA1/151010101/|PROJECT DATA| 13 14 S-7 at 15ft SS Brown fine SAND, some silt, trace fine gravel 6 (moist) 7 S-7 16 10 17 Drill to 20.0ft. Light rig chatter 18 19



Log of Boring A-B-BOR-33 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 Remarks Elev (ft) Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 114. 20 S-8 at 20ft Grayish brown fine-coarse SAND, some silt, some fine SS 16 S-8 (moist)[TILL] 21  $\infty$ 33 17 15 22 Drill to 25.0ft. Moderate rig 23 24 25 S-9 at 25ft Grayish brown fine-coarse SAND, trace silt, trace fine gravel, trace decomposed rock (moist)[TILL] SS 24 26 9 40 51 Drill to 30.0ft. Heavy rig chatter 28 29 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ No Recovery Inferred Top of Bedrock 4104.5 S-10 at 30ft _S-10 SS 0 50/0 Bottom of boring on Bottom of Boring 6/24/2020 31 Boring backfilled with soil cuttings 32 33 34 35 36 37 38 39 43



Log of Boring A-B-BOR-34(OW) Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131.5 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/25/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 31.9 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.) 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 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) 131. 10 20 30 40 Started Drilling on 6/25/2020 2" Dark brown fine-medium SAND, trace silt, trace roots -131. (moist)[TOPSOIL] S-1 at 0ft 16 Brown fine SAND, some silt (dry) 2 S-2 at 2ft Brown fine SAND, some silt 2 (dry) SS 15 3 Drill to 4.0ft. Drive casing to 4.0ft. Easy drilling 5 S-3 at 4ft Brown fine-medium SAND, some silt 8 ENTERPRISE (dry) 9 S-3 SS 10 5 6 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt 4 SS (dry) S-4 Drill to 8.0ft. Easy drilling 6 123.5 8 S-5 at 8ft Brown fine-medium SAND, trace silt 11 (moist) 13 SS S-5 16 9 14 18 S-6 at 10ft Brown fine-medium SAND, some silt 14 (moist) SS 12 S-6 25 13 15 12 Drill to 15.0ft. Easy drilling -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel 15 (moist) 11 S-7 10 16 10 12 17 Drill to 20.0ft. Light rig chatter 18 19



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

LANGAN Log of Boring A-B-BOR-34(OW) Sheet 2 of 2 Project Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum Elev. + 131.5 (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.) (ft) Scale 10 20 30 40 111. 20 Brown fine-coarse SAND, some silt, trace fine gravel, trace S-8 at 20ft SS 22 weathered rock, 31 (moist)[TILL] 4 21 45 35 22 Drill to 25.0ft. Medium rig 23 24 25 S-9 at 25ft Brown fine-coarse SAND, some silt, trace fine gravel, trace SS 25 weathered rock, 9 64 (moist)[TILL] 26 50/3 27 Drill to 30.0ft. Medium rig chatter 28 29 30 S-10 at 30ft Brown fine-coarse SAND, some silt, trace fine gravel, trace 21 weathered rock, S-10 20 (moist)[TILL] 9 31 46 50/5 +99.5 32 Bottom of boring at Bottom of Boring 6/25/2020 Observation well installed. 33 Refer to well construction log. 34 35 36 37 38 39 43



A-B-BOR-35 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) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/24/20 6/29/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822DT 37 ft 38 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 11 Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 35 15 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 Ben Crary Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) Automatic 140 30 Justin Hall/Elyssa Schwendy Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 134. Started Drilling at 6/24/2020 6" Dark brown fine-coarse SAND, some silt, trace roots SS 2 133.5 S-1 at 0ft (moist) [TOPSOIL] 2 16 Light brown silty fine-medium SAND 2 (dry) 2 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, some silt 3 2 16 3 3 Drive casing to 4ft Light brown fine-medium SAND, some silt SS ENTERPRISE S-3 at 4ft (moist) 6 S-3 15 5 5 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, some silt 5 SS (moist) S-4 8 Drive casing to 8ft SS Light brown fine-medium SAND, some silt 6 125 6 S-5 at 8ft Light brown fine-coarse SAND, trace silt 10 9 10 (moist) 9 S-6 at 10ft Light brown fine-coarse SAND, trace silt 11 (moist) SS 10 S-6 13 12 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Drive casing to 15ft Light brown fine-coarse SAND, some fine gravel, trace silt SS 13 S-7 at 15ft 9 S-7 16 ω 13 7 17 18 19



Log of Boring A-B-BOR-35 Sheet 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 (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 Drive casing to 20ft Light brown fine-coarse SAND, some fine gravel, trace silt SS S-8 at 20ft 8 21 8 14 22 23 24 25 Drive casing to 25ft Light brown fine-medium SAND, some silt, some fine 54 gravel (wet)[TILL] S-9 at 25ft SS 4 45 28 29 30 Drive casing to 30ft Light gray fine-coarse SAND, some fine gravel, trace silt (wet)[TILL]  $\,$ 16 S-10 at 30ft 25 31 30 16 32 33 34 35 SS Drive casing to 35ft Gray fine-coarse SAND, some fine gravel, trace silt 34 S-11 at 35ft (wet)[TILL] 22 36 32 58 37 \\LANGAN.COM\DATA\BOS\DATA\\\51010101\PROJECT DATA\ Roller bit refusal at 38ft Inferred Top of Bedrock +96.0 Bottom of boring at 38 Bottom of Boring 6/29/2020 Boring backfilled with soil 39 cuttings. 43

LANGAN

Log of Boring A-B-BOR-36 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished 6/25/20 6/25/20 Seaboard Drilling, Inc. **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 21 ft 21 ft 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.)  $\mathbf{V}$ N/A N/A 8.5 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) 140 30 Automatic 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) Scale 132. 10 20 30 40 0 Started Drilling at 6/25/2020 3" Dark brown fine SAND, trace silt, trace roots SS 131.7 2 S-1 at 0ft (dry) [TOPSOIL] 3 16 Light brown silty fine SAND 2 2 USE.GPJ S-2 at 2ft SS Light brown fine SAND, some silt 3 (dry) 3 S-2 16 3 3 Auger to 4ft Light brown fine SAND, some silt SS S-3 at 4ft (moist) 3 S-3 16 ENTERPRISE 5 6 SS S-4 at 6ft Light brown fine SAND, some silt 5 125.5 (moist) 17 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Brown to dark brown fine-coarse SAND, trace silt, trace fine gravel (moist) 8 Auger to 8ft SS 2 Brown to dark brown fine-coarse SAND, trace silt, trace S-5 at 8ft fine gravel S-5 15 q 2 (wet) 3 10 S-6 at 10ft Brown to dark brown fine-coarse SAND, trace silt, trace 2 fine gravel SS 18 (wet) 5 5 12 13 DATA\ 15 SS TITLLITIE Auger to 15ft Brown to dark brown fine-coarse SAND, trace silt, trace 18 116. S-7 at 15ft fine gravel 37 22 (wet) 16 41 Brown to brown fine-medium SAND, some silt, trace f-c 52 gravel, trace weathered gravel 17 (moist) [TILL] 18 19 Brown fine-medium SAND, some silt, trace f-c gravel, trace Auger to 20ft weathered gravel (moist) [TILL] 20 S-8 at 20ft Inferred Top of Bedrock SS 33 ω Bottom of boring at 21 6/25/2020 Auger and spoon refusal Bottom of Boring encountered. 22 Boring backfilled with auger cuttings.

23



Log of Boring A-B-BOR-37 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140.5 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished Seaboard Drilling, Inc. 6/25/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Mobile Drill B53 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 Casing Hammer N/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) Automatic 140 30 Reid Balkind 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 140. 10 20 30 40 Started Drilling on 6/25/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 3 140. S-1 at 0ft (dry) [TOPSOIL] 3 8 Light brown fine-coarse SAND, trace silt, trace fine gravel (dry) USE.GPJ 2 SS S-2 at 2ft Light brown fine-coarse SAND, some fine gravel, trace silt 6 BORINGS 12 3 5 5 S-3 at 4ft. Auger to 4ft Brown fine-coarse SAND, trace silt, trace fine gravel SS 3 ENTERPRISE (dry) 5 S-3 15 5 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 9 SS (dry) S-4 8 8 Auger to 8ft. S-5 at 8ft Brown fine-coarse SAND, trace silt, trace f-c gravel 5 (moist) 10 SS S-5 13 9 8 9 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace f-c gravel 5 (moist) 9 S-6 4 13 16 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 13.5ft. Hard drilling SS Brown fine-coarse SAND, trace silt, trace f-c gravel 37 and heavy chatter at 13.5ft. (moist) 22 Auger refusal encountered at S-7 12 13.5ft. Offset 5ft and redrill 35 15 boring. S-7 at 13.5ft 35 -125.0 Bottom of boring on Bottom of Boring 16 6/25/2020 Boring backfilled with auger cuttings 17 18 19



ENTERPRISE

DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101

BOS\DATA1\151010101\PROJECT DATA\

LANGAN Log of Boring A-B-BOR-37A(OW) Sheet of 2 Project Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140.5 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 6/25/20 6/25/20 **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 Casing Diameter (in) Casing Depth (ft) 24 HR. Completion Water Level (ft.) 26 N/A N/A N/A Drop (in)N/A Casing Hammer N/A Weight (lbs) Drilling Foreman N/A Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Drop (in) 30 Sampler Hammer Weight (lbs) 140 Automatic Reid Balkind Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist Number (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 140. 10 20 30 40 Started Drilling on 6/25/2020 See sample descriptions on boring A-B-BOR-37 140.0 Offset 5ft from A-B-BOR-37(OW) and redrill to 15ft 2 3 5 6 8 9 10 12 13 14 125. S-1 at 15ft SS Brown to dark gray fine-coarse SAND, some f-c gravel, 27 trace silt 34 (dry) Ŝ 19 49 17 18 19



	Log	of Boring A-B-BOR-37A(OW) Sheet 2 of 2												
Project	Hudson Logistics Center	Project No. 151010101												
Location	-	Elevation and Datum  Elev. + 140.5 (NGVD29)												
	59 Steele Road, Hudson NH	Sample Data												
MATERIAL (tt) +120.5	Sample Description	Depth Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale												
	Brown to orangish brown fine-medium SAND, some silt, trace f-c gravel, trace weathered gravel (dry)[TILL]	S-2 at 20ft.												
	Brown to orangish brown fine-medium SAND, some silt, trace f-c gravel, trace weathered gravel (dry)[TILL] Brown to orangish brown fine-medium SAND, some silt, trace f-c gravel, trace weathered gravel (wet)[TILL]	24 — 25 — 9 — 9 — 60 — 55/3 — 26 — 27 — 9 — 9 — 9 — 9 — 9 — 9 — 9 — 9 — 9 —												
110.2	No Recovery Inferred Top of Bedrock  Bottom of Boring	- 30												



A-B-BOR-38 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 143 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/23/20 6/23/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 33.5 ft 33.5 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. First Completion Water Level (ft.) N/A N/A 27 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) Scale 143. 10 20 30 40 Started Drilling at 6/23/2020 4" Dark brown fine-medium SAND, trace silt, trace roots 142.7 2 (dry) [TOPSOIL] S-1 at 0ft SS 2 15 Light brown fine-medium SAND, some silt, trace fine gravel 2 3 USE.GPJ 2 SS S-2 at 2ft Light brown fine-medium SAND, some silt, trace fine gravel 2 2 16 BORINGS 3 3 3 Auger to 4ft Light brown fine-coarse SAND, some silt, trace fine gravel SS 5 ENTERPRISE S-3 at 4ft (moist) 7 S-3 5 12 6 6 6 S-4 at 6ft ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 SS Light brown fine-coarse SAND, trace silt, trace fine gravel 5 136. 6 15 7 Light brown SILT, some fine sand 6 10 Auger to 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 6 S-5 at 8ft (dry) 11 S-5 SS 20 9 10 7 S-6 at 10ft Brown fine-coarse SAND, some silt, trace fine gravel (moist) SS S-6 18 8 9 12 13 Auger to 15ft, Easy drilling SS Brown fine-medium SAND, trace silt 5 S-7 at 15ft (moist) S-7 17 10 17 18 19



BORINGS USE.GPJ

ENTERPRISE

Log of Boring A-B-BOR-38 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 143 (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 40 123.0 20 Auger to 20ft, Easy drilling, Brown fine-medium SAND, some silt SS light chatter (moist) 11 S-8 at 20ft 18 21 23 12 13 22 23 24 25 Auger to 25ft, Easy drilling Brown fine-coarse SAND, trace silt, trace f-c gravel S-9 at 25ft (wet) 6 20 26 10 27 28 29 30 Auger to 30ft, Easy drilling SS Brown fine-coarse SAND, trace silt, trace f-c gravel S-10 at 30ft (wet) 5 16 31 VILANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\15101010_ 5 6 32 33 Inferred Top of Bedrock +109.5 Auger refusal encountered at 33.5ft 34 Bottom of boring at Bottom of Boring 6/23/2020 35 Boring backfilled with auger cuttings. 36 37 38 39 43



Log of Boring **A-B-BOR-39** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/22/20 6/22/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 27 ft 27 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 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 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) 143. 10 20 30 40 Started Drilling at 6/22/2020 3" Brown fine-medium SAND, some silt, trace fine gravel, SS 142. S-1 at 0ft 5 (dry) [TOPSOIL] Brown fine-medium SAND, some silt, trace fine gravel, trace roots 2 (dry) SS S-2 at 2ft Brown fine-coarse SAND, trace silt, trace fine gravel (dry) 22 3 5 Auger to 4ft 5 4 S-3 at 4ft Brown fine SAND, trace silt 8 ENTERPRISE (moist) 7 S-3 SS 10 5 4 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Brown fine-coarse SAND, trace silt, trace fine gravel (moist) 11 SS 136. 16 Brown fine SAND, some silt 12 (moist) Auger to 8ft 12 135.0 S-5 at 8ft Brown fine-medium SAND, trace silt 10 (wet) 15 12 9 SS 12 Brown fine-coarse SAND, trace silt, trace fine gravel 10 10 S-6 at 10ft 10 Brown fine-coarse SAND, trace silt, trace f-c gravel SS 10 (wet) S-6 8 9 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace f-c gravel (wet) 11 S-7 4 16 9 17 18 Auger to 20ft, easy drilling 19



Log of Boring A-B-BOR-39 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 143 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Elev Depth N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 -123.0 20 S-8 at 20ft Brown fine-coarse SAND, some f-c gravel, trace silt SS (wet) 16 S-8 15 21 16 19 22 23 Auger to 25ft, moderate 24 25 S-9 at 25ft Brown silty fine-medium SAND, some f-c gravel SS 17 (wet) [TILL] S-9 15 25 26 19 No Recovery Inferred Top of Bedrock NLANGAN.COMIDATA\BOS\DATA1/15101011/PROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GR. Auger to 27ft, auger refusal 50/0 S-10 at 27ft, spoon refusal, spoon bouncing 28 Bottom of boring at Bottom of Boring 6/22/2020 Boring backfilled with auger 29 cuttings. 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring A-B-BOR-40(OW) Sheet of 2 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 6/19/20 6/19/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 34 ft 34 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 2-7/8in Tricone Roller Bit Casing Diameter (in) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 30 12 16.4 Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 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 144 10 20 30 40 0 Started Drilling at 6/19/2020 10" Dark brown fine SAND, trace silt, trace roots SS 144. S-1 at 0ft (dry) [TOPSOIL] Light brown fine-coarse SAND, some fine gravel, trace silt 4 6 USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, some fine gravel, trace silt 3 2 4 3 Drill to 4.0ft, Easy drilling, Light brown fine-medium SAND, trace silt, trace fine gravel 4 ENTERPRISE Light brown wash (moist) S-3 SS S-3 at 4ft 13 5 6 6 6 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, some silt, trace fine gravel 9 (moist) 8 SS S-4 16 12 136.5 8 Drill to 8.0ft, Easy drilling, Light brown silty fine-medium SAND SS 5 Light brown wash (moist) S-5 S-5 at 8ft 9 7 10 S-6 at 10ft Light brown silty fine-medium SAND 9 (moist) 8 S-6 11 11 12 Drill to 15.0ft, Easy drilling, Light brown wash 13 14 129.5 S-7 at 15ft SS Light brown fine-coarse SAND, some silt 12 (moist) 15 S-7 10 16 27 27 17 Drill to 20.0ft, Easy drilling, Light Chattering, Light Brown wash 18 19



Log of Boring A-B-BOR-40(OW) Sheet of 2 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-coarse SAND, some fine gravel, trace silt (moist) [TILL] SS 20 S-8 21 6 36 16 17 22 Drill to 25.0ft, Moderate drilling, Medium Chattering, Light Brown wash 23 24 25 S-9 at 25ft Light brown fine SAND, some silt, trace fine gravel 16 (moist) [TILL] SS 27 8-9 10 26 30 46 Drill to 30.0ft, Moderate drilling, Light Chattering, Light brown wash 28 29 30 S-10 at 30ft Light brown fine-medium SAND, some silt, trace fine gravel 42 (moist) [TILL] 29 12 31 35 28 32 Drill to 35.0ft, Hard drilling, Heavy Chattering, Light brown wash 33 No Recovery Inferred Top of Bedrock +110.5 \\LANGAN.COMDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL -11 SS 0 S-11 at 34ft. Roller bit and spoon refusal at 34ft 35 Bottom of Boring Bottom of boring at 6/19/2020 Boring backfilled with soil 36 cuttings 37 38 39 43



A-B-BOR-41 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 7/1/20 7/2/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 29.5 ft 29.5 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. First Completion Water Level (ft.) 4in 29 15 19 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 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 (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 147. 10 20 30 40 Started Drilling at 7/1/2020 6" Brown fine-medium SAND, trace silt, trace roots SS 146. S-1 at 0ft (dry) [TOPSOIL] 8 Light brown fine-coarse SAND, trace silt, trace fine gravel USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 5 13 3 6 Drive casing to 4.0ft Brown gravelly fine-coarse SAND, trace silt 10 ENTERPRISE Drill to 4.0ft, easy drilling (moist) S-3 SS S-3 at 4ft ω 5 9 12 141.0 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt, trace fine gravel 13 SS (moist) S-4 12 8 S-5 at 8ft No Recovery 24 25 SS S-5 9 0 24 16 137. Drill to 10.0ft., moderate Brown fine-coarse SAND, some silt, some fine gravel 14 drilling S-6 at 10ft (moist) [TILL] SS 10 S-6 2 14 10 12 13 14 Drive casing to 14.0ft Drill to 14.0ft, moderate drilling SS Brown fine-coarse SAND, some silt, some fine gravel 20 S-7 at 14ft (wet) [TILL] 23 S-7 16 2 35 12 14 17 18 19



Log of Boring A-B-BOR-41 Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 147 (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) 127.0 10 20 30 40 S-8 Drive casing to 20.0ft Brown fine-medium SAND, some silt, some fine gravel, SS က Drill to 20.0ft, moderate to trace weathered rock fragments hard drilling (wet) [TILL] 21 S-8 at 20ft 22 23 24 25 Drill to 25.0ft, moderate Brown fine-medium SAND, some silt, some fine gravel, S-9 SS 3 50/5 drilling trace weathered rock fragments S-9 at 25ft (wet) [TILL] 26 27 Brown fine-medium SAND, some silt, some fine gravel, 28 some weathered rock fragments (wet) [TILL] Inferred Top of Bedrock Drill to 29.0ft, hard drilling S-10SS 3 50/5 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE S-10 at 29ft Bottom of boring at 7/2/2020 30 Boring backfilled with soil cuttings. Bottom of Boring 31 32 33 34 35 36 37 38 39 43



A-B-BOR-42 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/4/20 6/4/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 23.5 ft 23.5 ft 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 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 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) 132. 10 20 30 40 Started Drilling at 6/4/2020 8" Light brown fine-medium SAND, some silt, some roots S-1 at 0ft (moist) [TOPSOIL] -131 3 2 Light brown fine-medium SAND, some silt, trace roots 3 SS (moist) 2 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 2 12 BORINGS 3 Auger to 4ft S-3 at 4ft Light brown fine SAND, trace silt SS 2 ENTERPRISE (moist) 3 S-3 15 5 4 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, trace silt, with silty fine sand lenses 4 SS trace roots (moist) S-4 19 6 Auger to 8ft 8 S-5 at 8ft Light brown sandy SILT, trace fine gravel 3 (moist) SS S-5 18 9 Auger to 10ft 7 S-6 at 10ft Brown fine-coarse SAND, some fine gravel, trace silt 5 (moist) SS 10 S-6 8 11 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, easy drilling S-7 at 15ft Brown fine-coarse SAND, trace silt 6 16 Brown fine-coarse SAND, some f-c gravel, trace silt (wet) 50/5 18 19 Auger to 20ft, easy drilling



Log of Boring A-B-BOR-42 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132 (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.) (ft) Scale 10 20 30 40 -112.0 20 S-8 at 20ft Brown fine-coarse SAND, some fine gravel, trace silt SS (wet) 18 24 21 38 20 Brown to gray fine-coarse GRAVEL, some f-m sand, trace 17 22 (wet) [TILL] 23 No Recovery Drill to 23.5ft, moderate Inferred Top of Bedrock drilling. 108. S-9 SS 0 50/2 NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:53:49 AM S-9 at 23.5ft 24 Auger and split spoon refusal st 23.5ft Bottom of Boring Bottom of boring at 6/4/2020 25 Boring backfilled with auger cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-43 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/3/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 25.3 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. Completion Water Level (ft.) V N/A N/A 15 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) 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) 132. 10 20 30 40 Started Drilling at 6/3/2020 Light brown fine-medium SAND, some silt, some roots SS 2 131. S-1 at 0ft (moist) [TOPSOIL] 2 8 Light brown fine-medium SAND, some silt, trace roots (dry) [FILL] 2 Light brown fine SAND, trace silt S-2 at 2ft 3 (dry) [FILL] SS 3 19 3 Auger to 4ft S-3 at 4ft Light brown fine SAND, trace silt, about 1/2-inch thick m-c 3 sand seams 3 S-3 SS (moist)[FILL] 24 5 4 5 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Light brown fine-medium SAND, trace silt 5 (moist) [FILL] SS S-4 15 6 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, some silt, trace fine gravel SS 6 123.5 (moist) [FILL] Brown medium-coarse SAND, trace silt 17 9 (moist) 7 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace f-c gravel 4 (moist) SS 4 S-6 13 8 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, some f-c gravel, trace silt (wet) 6 S-7 17 16 8 17 18 19 Auger to 20ft, easy drilling



Log of Boring A-B-BOR-43 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132 (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 -112.0 20 S-8 at 20ft Brown gravelly fine-coarse SAND, trace silt SS (wet) 8 24 21 10 10 22 23 NLANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:53:53 AM 24 Auger to 25ft, moderate Brown fine-coarse GRAVEL, some sand, trace silt drilling 25 Inferred Top of Bedrock S-9 SS 2 50/3 S-9 at 25ft 106. Auger refusal at 25.3ft Bottom of boring at 6/3/2020 Boring backfilled with auger cuttings. 26 Bottom of Boring 28 29 30 31 32 33 34 35 36 37 38 39 40 43

LANGAN

A-B-BOR-44 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 132.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/3/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 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) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 8 10.7 N/A 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 Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 132. 10 20 30 40 Started Drilling at 6/3/2020 12" Dark brown fine-medium SAND, trace silt, trace fine 2 S-1 at 0ft gravel, trace roots (dry) [TOPSOIL] 20 Light brown fine SAND, trace silt (dry) 2 S-2 at 2ft Light brown fine SAND, trace silt SS 8 3 Drive casing to 4.0ft. Brown fine-medium SAND, trace silt 2 ENTERPRISE S-3 at 4ft (wet) 2 S-3 SS 4 5 1in old topsoil layer at 5ft 2 2 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt SS (moist) S-4 Drive casing to 8.0ft. Brown fine-coarse SAND, trace silt SS 3 S-5 at 8ft (wet) S-5 9 6 7 10 S-6 at 10ft Brown fine-coarse SAND, trace fine gravel, trace silt SS 2 (wet) S-6 0 7 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA 13 Drive casing to 14.0ft. No Recovery 5 S-7 at 14ft 6 SS S-7 0 5 16 17 18 S-8 at 19ft Brown gravelly fine-coarse SAND, trace silt 5 လူ 2 (wet)



Log of Boring A-B-BOR-44 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132.5 (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 40 112. 20 SS S-8 2 21 22 23 24 S-9 at 24ft Brown gravelly fine-coarse SAND, trace silt SS (wet) 25 3 26 BORINGS USE.GPJ 28 29 S-10 at 29ft Brown fine-coarse SAND, some fine gravel, trace silt ENTERPRISE (wet) S-10 4 30 13 16 +101.5 31 Bottom of boring at 6/3/2020 Boring backfilled with soil VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 Bottom of Boring cuttings 32 33 34 35 36 37 38 39 43



A-B-BOR-45 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/3/20 6/3/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 24.5 ft 24.5 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 8 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) 140 30 Automatic 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) 133 10 20 30 40 Started Drilling at 6/3/2020 24" Brown fine SAND, trace silt, trace roots 3 S-1 at 0ft (moist) [TOPSOIL] SS 2 S-1 24 3 131. S-2 at 2ft Brown fine SAND, trace silt SS (moist) 3 8 3 3 Auger to 4ft. S-3 at 4ft Brown fine-medium SAND, trace silt, trace coarse sand SS 3 ENTERPRISE (moist) 3 S-3 7 5 4 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 14 (moist) SS 11 S-4 4 12 8 Auger to 8ft. S-5 at 8ft Brown fine-medium SAND, trace silt (moist) 10 SS S-5 15 9 10 12 S-6 at 10ft Brown fine-medium SAND, some silt, trace coarse sand 17 (moist) SS 11 S-6 20 10 12 12 Auger to 15ft -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown gravelly fine-coarse SAND, trace silt 8 (moist) 9 S-7 16 12 8 17 Auger to 20ft 18 19



Log of Boring A-B-BOR-45 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (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 40 113. 20 S-8 at 20ft SS Brown fine-medium SAND, some silt, trace gravel (moist) [TILL] 48 S-8 15 21 49 45 22 23 24 Inferred Top of Bedrock 109.0 NLANGAN.COMDATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ....7/22/2020 9:54:00 Auger refusal at 24.5ft Bottom of boring at 6/3/2020 Boring backfilled with auger 25 Bottom of Boring cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

LANGAN

A-B-BOR-46 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142.5 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/24/20 6/24/20 **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 11.1 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 Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 142. 10 20 30 40 Started Drilling on 6/24/2020 12" Dark brown fine-medium SAND, trace silt, trace fine S-1 at 0ft gravel, trace roots (moist)[TOPSOIL] ω Light brown fine-medium SAND, trace silt, trace fine gravel (dry) 3 S-2 at 2ft Light brown fine-medium SAND, trace silt 5 SS 12 3 Drill to 4.0ft. Drive casing to 5 4.0ft. Easy drilling 4 S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel 22 ENTERPRISE (dry) 11 S-3 SS 10 5 11 12 136.5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown silty fine SAND 9 (dry) SS 11 S-4 26 Drill to 8.0ft. Drive casing to 15 8.0ft. Easy drilling 8 S-5 at 8ft Brown silty fine SAND 5 (dry) 9 SS S-5 9 6 13 13 10 S-6 at 10ft Brown silty fine SAND 8 (moist) SS 9 S-6 12 11 9 13 12 Drill to 15.0ft. Easy drilling -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 -127.5 S-7 at 15ft SS Brown fine-medium SAND, some silt (wet) 11 10 S-7 16 12 9 17 Drill to 20.0ft. Light rig chatter 18 19



Log of Boring A-B-BOR-46 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142.5 (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 40 122. 20 S-8 at 20ft Brown fine-coarse SAND, some silt, trace fine gravel SS (wet) 12 12 21 27 15 17 22 Drill to 25.0ft. Light rig 23 7/22/2020 9:54:03 AM 24 25 S-9 at 25ft Brown fine-coarse SAND, some silt, some fine gravel 18 (wet) SS 20 26 9 33 BORINGS USE.GPJ 27 27 Drill to 30.0ft. Moderate rig chatter 28 29 ENTERPRISE 30 S-10 at 30ft Brown fine-coarse SAND, trace silt, some fine gravel 19 (wet) 18 10 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 23 26 -110.5 32 Bottom of boring on Bottom of Boring 6/24/2020 Boring backfilled with soil 33 cuttings 34 35 36 37 38 39 43



A-B-BOR-47 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/23/20 6/23/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 27 ft 27 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 26 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 9:54:07 AM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 143. 10 20 30 40 Started Drilling at 6/23/2020 6" Dark brown fine-medium SAND, trace silt, trace roots SS 2 142. S-1 at 0ft (dry) [TOPSOIL] 2 Light brown silty fine-medium SAND, trace roots 20 2 SS S-2 at 2ft Light brown fine-medium SAND, some silt, trace fine gravel 3 3 S-2 16 3 5 6 Auger to 4ft Brown fine-coarse SAND, trace silt, trace fine gravel SS 3 ENTERPRISE S-3 at 4ft (dry) 6 S-3 15 5 9 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt 6 (dry) SS S-4 8 10 8 Auger to 8ft Light brown silty fine-medium SAND, trace fine gravel 6 S-5 at 8ft (moist) 10 SS S-5 18 9 12 12 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 9 (moist) SS 12 S-6 4 10 9 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, Easy drilling SS Brown to light gray fine-coarse SAND, some silt, trace f-c 8 S-7 at 15ft gravel 11 (moist) 8 S-7 16 12 17 18 19



Log of Boring A-B-BOR-47 Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 143 (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 40 123.0 20 Auger to 20ft, Easy drilling, Brown to light gray fine-coarse SAND, trace silt, trace f-c 15 Light chatter. SS 45 S-8 S-8 at 20ft (dry) 4 21 21 24 22 23 24 25 Auger to 25ft, Hard drilling, Grayish brown fine-coarse SAND, some silt, trace f-c 29 heavy chatter gravel, trace weathered gravel (wet) [TILL] SS 21 S-9 at 25ft. 19 26 20 33 Auger to 27ft. Dark gray coarse GRAVEL 115.8 S-10 SS 50/2 /\LANGAN.COMIDATA\BOS\DATA1/151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE. S-10 at 27ft (wet) [BEDROCK] Auger and spoon refusal 28 Bottom of Boring encountered at 27ft. Bottom of boring at 6/23/2020 29 Boring backfilled with soil cuttings. 30 31 32 33 34 35 36 37 38 39 40 43



A-B-BOR-48 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 145 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/19/20 6/19/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 33 ft 33 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 14.1 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 Number (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 145. 10 20 30 40 0 Started Drilling on 6/19/2020 2" Dark brown fine SAND, trace silt, trace roots 144. 2 S-1 at 0ft (dry) [TOPSOIL] SS 3 Brown fine-medium SAND, trace silt, trace fine gravel 10 (dry) USE.GPJ SS S-2 at 2ft Brown fine-coarse SAND, trace silt, trace fine gravel 5 19 3 Drive casing to 4ft and washout with water 6 S-3 at 4ft Brown fine-medium SAND, trace silt, trace fine gravel 21 ENTERPRISE (dry) 12 S-3 SS 12 5 10 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown SILT, trace fine sand 6 Light brown fine-medium SAND, trace silt, trace fine gravel SS Drive casing to 8ft and (dry) washout with water 8 S-5 at 8ft Brown fine-coarse SAND, trace silt 6 (dry) 14 SS S-5 9 ω 17 14 S-6 at 10ft Brown fine-coarse SAND, trace silt 11 (dry) SS 12 S-6 2 10 11 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 SS S-7 at 14ft. Drill to 14ft and Brown fine-coarse SAND, some silt 4 washout with water (wet) 5 S-7 15 8 10 16 17 18 Drill to 19ft and washout with water S-8 at 19ft Brown fine-coarse SAND, some silt, trace fine gravel 9 လူ 12 (wet)



Log of Boring A-B-BOR-48 Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 145 (NGVD29) 59 Steele Road, Hudson NH Sample Data Remarks Depth Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) -125.0 20 SS S-8 12 18 21 Drill to 24ft. Easy drilling 22 23 24 S-9 at 24ft Brown fine-medium SAND, some fine gravel, trace silt, 15 trace weathered gravel SS (wet) [TILL] 13 25 38 22 17 26 Drill to 29ft. Heavy chatter 27 28 29 S-10 at 29ft Brown fine-medium SAND, some fine gravel, trace silt, 11 trace weathered gravel S-10 9 (wet) [TILL] 6 30 13 12 31 Drill to 33ft. Heavy chatter and hard drilling. /\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010 32 No Recovery Inferred Top of Bedrock 33 S-11 at 33ft
Bottom of boring at S-11 SS 0 50/1 Bottom of Boring 6/19/2020. Spoon and roller 34 bit refusal at 33.1ft. End of boring at 33.1ft. Backfilled with soil cuttings to grade. 35 36 37 38 39 43



Log of Boring A-B-BOR-49 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 145 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/19/20 6/19/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 32 ft 32 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 6.3 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) 145. 10 20 30 40 0 Started Drilling on 6/19/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 144. S-1 at 0ft (dry) [TOPSOIL] 2 Light brown fine-medium SAND, trace silt, trace fine gravel 3 USE.GPJ S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel 5 SS BORINGS 7 3 Drive casing to 4ft and 6 washout with water 6 4 S-3 at 4ft Light brown fine-medium SAND, trace silt 22 ENTERPRISE (moist) 11 S-3 SS 15 5 11 9 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace fine gravel 5 (moist) SS S-4 7 8 12 8 S-5 at 8ft Brown fine-coarse SAND, some coarse gravel, trace silt 17 (wet) SS 23 S-5 10 9 Drive casing to 8ft and 27 washout with water 24 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 15 (wet) SS 14 S-6 0 10 10 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Open hole drilling to 14ft S-7 at 14ft Brown fine-coarse SAND, trace silt, trace fine gravel 5 (wet) SS S-7 10 9 16 17 Open hole drilling to 19ft. Medium chatter 18 S-8 at 19ft Brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS 8 S-8 2



Log of Boring A-B-BOR-49 Sheet of 2 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 145 (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 40 125.0 20 SS S-8 2 7 21 22 Drill to 22.0ft. Easy drilling 23 24 S-9 at 24ft No Recovery SS 25 0 5 6 26 Open hole drilling to 29ft. Easy drilling. Light chatter 28 29 S-10 at 29ft Brown fine to coarse SAND, some silt, trace fine gravel, 4 trace weathered rock S-10 11 (wet) [TILL] 6 30 28 42 31 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 No Recovery Inferred Top of Bedrock 32 S-11 at 32ft. Drill to 32.1ft. -S-11 SS 0 20/1 Hard drilling and heavy Bottom of Boring chatter. Spoon refusal at 33 32.1ft. End of boring at 32.1ft. Boring backfilled with soil to grade 34 Bottom of boring on 6/19/2020 35 36 37 38 39 40 43



Log of Boring A-B-BOR-50 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. 6/19/20 6/19/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 42.5 ft 42.5 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 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 /22/2020 9:54:19 AM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 149. 10 20 30 40 Started Drilling at 6/19/2020 5" Light brown fine-medium SAND, some silt, some 5 148. S-1 at 0ft SS 9 (dry)[TOPSOIL] 10 Light brown fine-medium SAND, trace silt, trace fine 19 gravel, trace roots 12 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, trace silt (dry) 15 3 5 Auger to 4ft 5 SS S-3 at 4ft Light brown fine-medium SAND, trace silt, trace fine 8 ENTERPRISE gravel 9 S-3 (dry) 5  $\sim$ 9 9 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt, trace f-c 8 gravel SS (dry) S-4 4 8 Auger to 8ft 8 S-5 at 8ft Light brown fine-medium SAND, trace silt, trace fine 6 gravel SS S-5 (dry) 16 9 10 14 S-6 at 10ft Light brown fine-medium SAND, trace silt, trace f-c 14 gravel <u>ss</u> 8 S-6 (dry) 15 19 12 |LANGAN.COM|DATA|BOS|DATA1/151010101/|PROJECT DATA| 13 14 Auger to 5ft, moderate drilling S-7 at 15ft SS Light brown fine-coarse SAND, some f-c gravel, trace 33 25 (dry) 15 S-7 23 15 17 18 Auger to 20ft, moderate drilling, some light rig chatter 19



A-B-BOR-50 Log of Boring 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.) Scale (ft) 129.0 10 20 30 40 20 Light brown fine-coarse SAND, trace silt S-8 at 20ft 43 (dry) SS 28 S-8 21  $^{\circ}$ 22 18 22 23 24 Auger to 25ft, easy to moderate drilling 25 S-9 at 25ft Light brown fine-medium SAND, trace silt 10 (dry) SS 8-9 18 USE.GPJ 11 28 120.0 29 Auger to 30ft, easy drilling GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE  $\nabla$ 30 S-10 at 30ft SS Light brown SILT, some fine sand, with fine sand 8 lenses about 2 inch thick (wet) 13 31 3 3 32 33 34 Auger to 35ft, easy drilling 35 Brown gravelly fine-medium SAND, some silt, trace SS S-11 at 35ft 51 weathered gravel pieces 46 (wet) [TILL] S-1 36 39 43 37 Auger to 37.5ft, hard drilling Auger refusal at 37.5ft No Recovery S-12 at 37.5ft, spoon refusal Light gray to white PEGMATITE; fine to coarse 38 at 37.5ft grained; fresh to slightly weathered; very close to Remove auger and install moderate fracture spacing; fractures near vertical to REC=48"/60" =80% 3inch casing to 37.5ft, clean 39 moderately dipping; strong; rock quality fair 5:08 out hole [BEDROCK] C-1 at 37.6ft RQD=35"/60" 7 2:06 4:27 4:03 106.4 Bottom of boring at 43 6/19/2020 Bottom of Boring Boring backfilled with auger cuttings



A-B-BOR-101 Log of Boring Sheet of 2 Proiect Project No. 151010101 **Hudson Logistics Center** Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (NGVD29) Drilling Company Date Started Date Finished 6/22/20 6/22/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 32.5 ft 32.5 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 8 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) 130. 10 20 30 40 Started Drilling at 6/22/2020 6" Dark brown fine SAND, trace silt, trace roots SS 2 129. S-1 at 0ft (dry) [TOPSOIL] 3 7 Brown silty fine SAND, trace roots 3 (dry) S-2 at 2ft Brown silty fine SAND, trace roots 3 SS 5 20 3 5 Auger to 4ft, Easy Augering -126.0 S-3 at 4ft Brown fine-medium SAND, some silt 4 ENTERPRISE (moist) 6 S-3 12 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt 6 (moist) SS S-4 15 5 Auger to 8ft, Easy Augering 8 S-5 at 8ft Brown fine-medium SAND, some silt 6 (wet) SS S-5 16 9 6 10 S-6 at 10ft Brown fine-medium SAND, some silt 4 SS (wet) 6 S-6 8 10 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Brown medium-coarse SAND, some fine gravel, trace silt 3 (wet) S-7 17 16 7 17 Auger to 20ft, Easy Augering 18 19



USE.GPJ

Log of Boring A-B-BOR-101 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (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 -110.0 20 S-8 at 20ft Brown medium-coarse SAND, some fine gravel, trace silt SS (wet) 7 16 21 3 3 22 Auger to 25ft, Easy Augering 23 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt (wet) SS S-9A 8 24 26 5 Auger to 30ft, Moderate Augering, Light Chatter 28 29 100. 30 S-10 at 30ft Brown gravelly fine SAND, some silt SS 12 (wet) [TILL] S-10 15 13 31 38 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 23 50/3 Auger to 35ft, Hard No Recovery 32 Augering, Medium Chatter S-11 at 32.5ft Inferred Top of Bedrock +97 50/0 11 SS 50/0 33 Auger and Spoon Refusal at 32.5ft. Bottom of Boring Bottom of boring at 34 6/22/2020 Boring backfilled with auger cuttings. 35 36 37 38 39 40 43

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Log of Boring **A-B-BOR-102** Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 134 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished 6/20/20 6/20/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 18 ft 18 ft Size and Type of Bit Disturbed Undisturbed Core Number of Samples 4-7/8in Tricone Roller Bit 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 HammeN/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 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) 134. 10 20 30 40 Started Drilling on 6/20/2020 4" Light brown fine-medium SAND, some silt, some roots 133. 2 S-1 at 0ft (moist) [TOPSOIL] 2 15 Light brown fine SAND, some silt, trace roots 2 Light brown fine-coarse SAND, trace silt, trace fine gravel 3 S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 10 4 3 10 Auger to 4ft 10 S-3 at 4ft Light brown fine-medium SAND, trace silt 6 ENTERPRISE (moist) 6 S-3 SS 13 5 8 11 6 OGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 11 (moist) 13 SS S-4 16 16 Auger to 8ft 126.0 8 S-5 at 8ft Brown fine-coarse SAND, some silt, some f-c gravel, trace 5 weathered gravel fragments 13 SS S-5 (moist)[TILL] 20 9 16 13 S-6 at 10ft Brown fine-coarse SAND, some silt, some f-c gravel, trace 10 weathered gravel fragments SS 16 S-6 (wet)[TILL] 16 10 12 13 Auger to 12ft, moderate drilling, some light rig chatter S-7 at 15ft SS Brown silty fine-medium SAND, some f-c gravel, trace clay, 10 trace weathered gravel fragments 13 (wet)[TILL] 16 S-7 18 33 17 Auger to 18ft, hard drilling, 18 auger refusal at 18ft. S-8 at Brown silty fine-medium SAND, trace clay, some platy rock S-8 SS 2 100/2 18ft fragments Bottom of boring on (wet) [BEDROCK] 19 6/24/2020. Boring backfilled Bottom of Boring with auger cuttings



A-B-BOR-103 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/23/20 6/24/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 39 ft 34 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 11 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 Drop (in) 30 Sampler Hammer Weight (lbs) Automatic 140 Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Coring ( Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 130. 10 20 30 40 Started Drilling at 6/23/2020 6" Dark brown fine SAND, some silt, trace roots SS 2 130.0 (dry) [TOPSOIL] S-1 at 0ft 2 Light brown fine SAND, some silt 10 (dry) 2 USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 4 16 3 Auger to 4ft, Easy Augering 5 S-3 at 4ft Light brown fine SAND, some silt SS 16 ENTERPRISE (dry) 9 S-3 24 5 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft SS Light brown fine SAND, some silt 4 (dry) 123.7 8 Brown fine-coarse SAND, trace silt, trace fine gravel 8 Auger to 8ft, Easy Augering S-5 at 8ft Brown fine-coarse SAND, trace silt, some fine gravel 5 (moist) S-5 SS 16 9 8 8 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, some fine gravel 3 (wet) SS  $\nabla$ S-6 13 16 9 8 12 Auger to 15ft, Easy Augering -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 15ft SS Brown fine-coarse SAND, some fine gravel, trace silt (wet) 15 S-7 16 12 17 Auger to 20ft, Easy Augering 18 19



BORINGS USE.GPJ

'ECHNICAL\GINTLOGS\151010101 ENTERPRISE

\\LANGAN.COM\DATA\BOS\DATA\\151010101\\PROJECT DATA\

Log of Boring A-B-BOR-103 Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130.5 (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 -110.5 10 20 30 40 20 S-8 at 20ft Brown fine-coarse SAND, trace silt, some fine gravel SS 19 15 34 21 15 25 22 Auger to 25ft, Moderate Augering, Medium Chattering 23 24 25 S-9 at 25ft Brown fine-coarse SAND, trace silt (wet) 8 လ် 9 26 50/3 Auger to 30ft, Hard Augering, Heavy Chattering 28 29 30 S-10 at 30ft Brown fine-coarse SAND, trace silt, some fine gravel (wet) 9 15 31 8 6 32 Auger to 35ft, Hard Augering, Heavy Chattering 33 Gray SCHIST; fine-medium grained; slightly Auger Refusal at 34ft 2:20 C-1 at 34ft weathered; close fracture spacing; fractures moderately dipping; rock quality poor 35 REC=24"/60" =40% [BEDROCK] 3:45 36 NO CORE RQD=21"/60" 5 4:32 37 2:54 38 2:22 +91.5 39 Bottom of boring at Bottom of Boring 6/24/2020 Boring backfilled with auger 40 cuttings 43



Log of Boring A-B-BOR-104 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 6/23/20 6/23/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 28 ft 28 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 14 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 Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 139. 10 20 30 40 5" Brown to grayish fine-medium SAND, some silt, some roots (dry) [TOPSOIL] Started Drilling at 6/23/2020 11 138. S-1 at 0ft 12 Brown to grayish fine-medium SAND, some silt, trace fine 17 gravel, trace roots (dry) 137.5 Brown to grayish fine-coarse SAND, trace silt, trace fine 9 GPJ gravel (dry) S-2 at 2ft 6 Brown to grayish fine-coarse SAND, trace silt, trace fine gravel SS 15 3 (dry) 3 Auger to 4ft S-3 at 4ft Brown to grayish fine-medium SAND, trace silt 5 ENTERPRISE (dry) 5 S-3 SS 15 5 5 133.0 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 Brown to grayish fine SAND, some silt 5 (moist) SS S-4 4 6 Auger to 8ft 8 S-5 at 8ft Brown to grayish fine SAND, some silt 6 (moist) 10 SS S-5 4 9 9 9 129. S-6 at 10ft Brown to grayish fine SAND, trace silt 9 (moist) SS 11 S-6 13 10 11 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 126.0 13 Auger to 14ft, easy drilling S-7 at 14ft Brown to grayish SILT, some fine sand (wet) 8 15 123. Brown to grayish fine-coarse SAND, trace silt 10 16 (wet) 17 18 Auger to 19ft, easy drilling Brown to grayish fine-coarse SAND, some f-c gravel, trace S-8 at 19ft SS 5 S-8 silt 24 (wet)



Log of Boring A-B-BOR-104 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (NGVD29) Sample Data Remarks N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale -119.0 20 30 40 20 SS S-8 24 36 21 22 Auger to 24ft, moderate 23 Auger to 24ft, hard drilling, some light rig chatter 24 S-9 at 24ft Brown to grayish fine-coarse SAND, trace silt, trace f-c 31 gravel (wet) 25 22 32 Brown to grayish brown silty fine-medium SAND, trace f-c 49 gravel, trace weathered gravel pieces 26 (wet) [TILL] 27 Auger to 28ft, hard drilling Brown to grayish brown silty fine-medium SAND, trace f-c Auger refusal at 28ft gravel, some weathered gravel pieces (wet) [TILL] Inferred Top of Bedrock VLANGAN.COMIDATA\BOS\DATA1/151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\/151010101_ENTERPRISE_BORINGS 28 50/2 S-10 at 28ft, spoon bouncing S-10 SS 50/2 Bottom of boring at 6/23/2020 29 Boring backfilled with auger cuttings. Bottom of Boring 30 31 32 33 34 35 36 37 38 39 43

## **LANGAN**

A-B-BOR-105 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132 (NGVD29) Date Started **Drilling Company** Date Finished 6/25/20 6/25/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 25 ft 25 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 9 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) 132. 10 20 30 40 Started Drilling on 6/25/2020 6" Dark brown fine SAND, some silt, trace roots SS 2 131. S-1 at 0ft (dry) [TOPSOIL] 3 8 Light brown fine SAND, some silt (dry) 4 USE.GPJ S-2 at 2ft Light brown fine SAND, some silt 6 Light brown fine to medium SAND, trace silt 16 3 (dry) Auger to 4ft, Easy Augering 8 S-3 at 4ft Light brown silty fine SAND 6 ENTERPRISE (dry) 3 S-3 SS 22 5 4 5 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, some silt 6 (moist) SS 124.8 6 Brown fine-coarse SAND, trace silt Auger to 8ft, Easy Augering (moist) 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 5 (moist) SS 9 6 10 10 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 9 (moist) SS 9 S-6 15 6 7 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, trace fine gravel (moist) 4 10 S-7 16 14 17 Auger to 20ft, Easy Augering 18 19



A-B-BOR-105 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132 (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 -112.0 20 S-8 at 20ft Brown fine-coarse SAND, some fine gravel, trace silt SS (moist) 3 S-8 16 21 18 23 22 Auger to 25ft, Moderate Augering, Medium Chattering 23 NLANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ... 7/22/2020 9:54:39 AM S-9: Brown silty fine-coarse SAND, some fine gravel 24 (wet)[TILL] 107.5 222/2/2/2 Auger Refusal at 24.5ft. S-9 S-9 SS- 4 50/3 Inferred Top of Bedrock 25 at 24.5ft Bottom of boring on 6/25/2020 26 Boring backfilled with auger Bottom of Boring cuttings 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring **A-B-BOR-106** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/22/20 6/22/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 21 ft 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 19 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 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 6/22/2020 5" Dark brown fine-medium SAND, some silt, some roots 140. (dry) [TOPSOIL] S-1 at 0ft 6 Orangish brown fine-medium SAND, some silt, trace roots 17 (dry) 139.0 Brown fine-medium SAND, trace silt (dry) S-2 at 2ft Brown fine-coarse SAND, trace silt, trace fine gravel SS (moist) 12 3 Auger to 4ft S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel 4 ENTERPRISE (moist) SS 4 5 6 135.0 Brown to brown fine SAND, some silt 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft 4 Brown fine SAND, some silt (moist) SS 133.0 Auger to 8ft Brown fine-coarse SAND, trace silt (moist) S-5 at 8ft 6 Brown fine-coarse SAND, trace silt, trace fine gravel (moist) SS 24 9 Brown fine SAND, trace silt, trace fine gravel 9 (moist) q S-6 at 10ft Brown fine SAND, trace silt 11 SS (moist) 12 4 15 Brown fine-coarse SAND, some f-c gravel, trace silt 18 12 (moist) DATA\ 13 Auger to 15ft, easy drilling 126. S-7 at 15ft SS Brown silty fine-medium SAND, some f-c gravel, trace 27 weathered gravel pieces 31 (moist) [TILL] S-7 17 26 25 17 18 Auger to 18ft, moderate drilling, plug wet at 19ft 19



A-B-BOR-106 Log of Boring Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140.5 (NGVD29) 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 40 120.5 20 S-8 at 20ft Brown to brown silty fine-medium SAND, trace f-c gravel, S-8 SS 10 some weathered gravel pieces 100/5 (wet) [TILL] Inferred Top of Bedrock NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 9:54:43 AM ... Report: Log - LANGAN 21 Auger to 21ft, auger and split spoon refusal Bottom of boring at 22 Bottom of Boring 6/22/2020 Boring backfilled with auger cuttings 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



Log of Boring A-B-BOR-107 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 7/1/20 7/2/20 **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) Casing Depth (ft) 24 HR. First Completion Water Level (ft.) 4in 29 14 12.6 N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 30 140 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) 134. 10 20 30 40 0 Started Drilling at 7/1/2020 4" Brown fine-medium SAND, trace silt, trace roots SS 133. 2 S-1 at 0ft (dry) [TOPSOIL] 2 Light brown fine SAND, some silt 4 (dry) 3 SS S-2 at 2ft Light brown fine SAND, some silt 16 3 3 3 Drive casing to 4.0ft Light brown fine SAND, some silt SS 5 ENTERPRISE Drill to 4.0ft, easy drilling (dry) 3 S-3 S-3 at 4ft 12 5 5 5 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine SAND, some silt 5 (dry) SS S-4 126.0 8 Drive casing to 8.0ft Light brown fine-medium SAND, trace silt 5 Drill to 8.0ft, easy drilling. (dry) SS S-5 S-5 at 8ft 9 6 8 10 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 11 (dry) 10 S-6 11 9 12 13 Drive casing to 14.0ft Light brown fine-coarse SAND, trace silt, trace fine gravel 24 Drill to 14.0ft, easy drilling (wet) SS S-7 S-7 at 14ft က 15 10 16 17 18 Drive casing to 19.0ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 18 လူ Drill to 19.0ft, easy to (wet) moderate drilling



Log of Boring A-B-BOR-107 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 N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) 114. 20 30 40 20 S-8 at 19ft SS S-8 7 21 22 23 24 Drive casing to 24.0ft Drill to 24.0ft, easy to Light brown fine-coarse SAND, trace silt, trace fine gravel (wet) 12 8-9 SS moderate drilling 25 က S-9 at 24ft 8 27 26 Grayish brown fine-medium SAND, some fine gravel, trace 28 (wet) [TILL] Inferred Top of Bedrock 104.9 29 Drive casing to 29.0ft S-10 SS 2 50/2 VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE Drill to 29.0ft, hard drilling S-10 at 29ft 30 Split spoon and roller bit refusal at 29ft. Bottom of Boring Bottom of boring at 7/2/2020 Boring backfilled with soil 31 cuttings 32 33 34 35 36 37 38 39 43



Log of Boring **A-B-BOR-108** Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 142 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc. 6/24/20 6/25/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 42 ft 37 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 37 N/A Casing Hammer Automatic Drilling Foreman Weight (lbs) Drop (in) 30 140 Jeff Nitsch Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Aut<u>omatic/Safety</u> Weight (lbs) Drop (in) 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 6/24/2020 6" Dark brown fine-medium SAND, trace silt, trace 3 S-1 at 0ft SS 2 (dry) [TOPSOIL] 8 Light brown fine-medium SAND, some silt, trace fine gravel 2 (dry) SS S-2 at 2ft 2 Brown SILT, trace fine sand, trace fine gravel 2 (dry) 4 3 2 3  $\nabla$ Drive casing to 3ft. Brown SILT, trace fine sand, trace fine gravel 9 Autohammer breaks, switch (wet) 10 ENTERPR to cathead hammer 5 Brown fine-medium SAND, trace silt, trace fine gravel S-3 at 4ft 14 16 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Brown fine-medium SAND, trace silt, trace fine gravel 23 (wet) 23 SS S-4 4 29 28 8 Drive casing to 8ft and Brown fine-medium SAND, trace silt, trace fine gravel 15 washout with water. S-5 at (wet) 19 SS S-5 10 9 21 22 S-6 at 10ft Brown fine-medium SAND, some silt, trace fine gravel 18 (wet) SS 18 S-6 8 20 23 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Drive casing to 14ft and Brown fine-coarse SAND, trace silt, trace fine gravel 15 washout with water. (wet) 21 SS S-7 S-7 at 14ft 3 21 22 16 17 18 Drive casing to 19ft and Brown fine-medium SAND, trace silt, trace fine gravel 20 လူ 10 washout with water (wet) 20 S-8 at 19ft



USE.GPJ

A-B-BOR-108 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) Sample Data Coring (min) Remarks N-Value (Blows/ft) Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) (ft) Scale 10 20 30 40 122.0 20 SS S-8 10 32 21 22 23 24 Drive casing to 24ft and washout with water Brown fine-coarse SAND, trace silt, trace fine gravel 20 (wet) 27 SS S-9 at 24ft 25 9 22 20 26 28 29 Drive casing to 29ft and Brown fine-medium SAND, some silt, trace f-c gravel, 23 washout with water trace weathered gravel S-10 30 S-10 at 29ft (moist) [TILL] 30 33 23 31 32 33 Drive casing to 33ft and washout with water. Brown fine-medium SAND, some silt, trace f-c gravel, ls₽ 35 2 trace weathered gravel S-11 at 33ft (moist) [TILL] 34 35 36 37 Drive casing to 37ft and Light gray to dark gray SCHIST; fine to medium grained; fresh to slightly weathered; very close to close fracture spacing; fractures shallow dipping to near 5:15 washout with water. Drill refusal encountered at 38 =43% REC=54"/60" =90% horizontal; strong; rock quality poor; [BEDROCK] 4:23 C-1 at 37ft 39 RQD=26"/60" 2:46 40 2:59 2:45 Bottom of boring at Bottom of Boring 6/25/2020 Boring backfilled with soil 43 cuttings.



A-B-BOR-109 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/24/20 6/24/20 **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) First Completion Water Level (ft.) 11.5 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 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 on 6/24/2020 3" Brown fine-medium SAND, trace silt, trace fine gravel, -132.8 S-1 at 0ft (moist) [TOPSOIL] 20 Grayish brown fine SAND, some silt, trace roots GPJ S-2 at 2ft Grayish brown fine SAND, some silt 2 SS TIME (dry) 3 20 3 Drill to 4.0ft. Drive casing to 5 4.0ft. Easy drilling 5 S-3 at 4ft Grayish brown fine SAND, some silt 14 ENTERPRISE (dry) 6 S-3 SS 10 5 9 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Grayish brown fine SAND, some silt 5 (dry) SS S-4 12 Drill to 8.0ft. Easy drilling 9 15 8 S-5 at 8ft Grayish brown fine-coarse SAND, trace silt, trace fine gravel SS S-5 (moist) 12 9 8 8 10 S-6 at 10ft Grayish brown fine-medium SAND, trace silt, trace fine 11 gravel SS 12 S-6 (moist) 0 25 13  $\nabla$ 16 12 Drill to 15.0ft. Easy drilling -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 S-7 at 15ft SS Grayish brown fine-coarse SAND, trace silt, trace fine gravel 8 (wet) S-7 10 16 10 17 Drill to 20.0ft. Easy drilling 18 19



Log of Boring A-B-BOR-109 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 133 (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 -113.0 20 S-8 at 20ft Grayish brown fine-coarse SAND, some silt, trace fine SS 9 (wet) 10 21 9 22 Drill to 25.0ft. Light rig 23 24 108.0 25 S-9 at 25ft Grayish brown fine-coarse SAND, some silt, some fine 20 gravel (wet) [TILL] SS S-9 26  $\infty$ 22 19 27 Drill to 30.0ft. Moderate rig chatter 28 29 30 S-10 at 30ft SS Grayish brown fine-coarse SAND, some silt, some fine 10 gravel (wet) [TILL] 10 31 9 28 VILANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 18 14 +101.C 32 Bottom of boring on Bottom of Boring 6/24/2020 Boring backfilled with soil 33 cuttings 34 35 36 37 38 39 43



Log of Boring A-B-BOR-110 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 Atlantic Testing Laboraties 6/19/20 6/20/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 23 ft N/E Size and Type of Bit Disturbed Undisturbed Core Number of Samples 3-7/8in Tricone Roller Bit 8 Casing Diameter (in) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) N/A Casing HammerAutomatic Drilling Foreman Weight (lbs) Drop (in) 140 Scott 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 (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 142. 10 20 30 40 0 Started Drilling on 6/19/2020 3" Dark brown fine-medium SAND, trace silt, trace roots 141. S-1 at 0ft (dry) [TOPSOIL] SS 3 Light brown fine-medium SAND, some silt, trace fine gravel 12 USE.GPJ 2 SS S-2 at 2ft Light brown fine-medium SAND, some silt, trace fine gravel 6 6 19 BORINGS 3 Drive casing to 4ft 9 12 S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel 15 ENTERPRISE (wet) 11 S-3 SS 15 5 14 20 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel 14 (wet) 12 SS S-4 12 Drive casing to 8ft and 11 washout with water 13 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace f-c gravel 12 (wet) 14 SS S-5 10 9 25 30 S-6 at 10ft Brown fine-coarse SAND, trace silt, some fine gravel, trace 12 weathered gravel SS 21 S-6 (wet) [TILL] 10 19 16 12 Drill to 14ft. Heavy chatter at 13 S-7 at 14ft Brown fine-coarse SAND, trace silt, some fine gravel, trace 20 weathered gravel SS (wet) [TILL] S-7 4 48 48 16 17 18 Brown fine to coarse SAND, trace silt, trace fine gravel, S-8 at 19ft 37 trace weathered gravel လူ 10 (wet) [TILL]



Log of Boring A-B-BOR-110 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 50/2 21 22 23 Drill to 23ft, Hard drilling and Bottom of Boring hard chatter NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA|_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GPJ ... 7/22/2020 9:54:58 AM ... Rig broke, unable to 24 continue.

Bottom of boring on 6/20/2020. 25 Boring backfilled with soil cuttings. 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-R-BOR-01 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 146 (NGVD29) 59 Steele Road, Hudson NH Date Finished **Drilling Company** Date Started 6/2/20 6/2/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 27 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 6 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 Recov. (in)
Penetr. resist Number (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 146. 10 20 30 40 Started Drilling at 6/2/2020 24" Light brown fine SAND, trace silt 5 S-1 at 0ft (dry) [TOPSOIL] SS 8 S-1 22 12 S-2 at 2ft SS Light brown fine-medium SAND, trace silt 15 (dry) [FILL] 17 S-2 13 3 13 13 142.0 4 Auger to 4ft SS Light brown fine-coarse SAND, trace silt 4 ENTERPRISE S-3 at 4ft (moist) S-3 24 5 3 3  $\nabla$ 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft SS Light brown fine-medium SAND, trace silt 2 (wet) 2 S-4 8 7 2 8 SS Auger to 8ft Light brown fine-medium SAND, trace silt 9 S-5 at 8ft (wet) 9 S-5 9 2 14 14 10 Auger to 15ft Light brown fine-coarse SAND, trace silt SS S-6 at 10ft (wet) 7 S-6 21 6 12 |LANGAN.COM|DATA|BOS|DATA1/151010101/|PROJECT DATA| 13 14 Auger to 20ft SS Light brown fine-medium SAND, trace silt 3 S-7 at 15ft (wet) 4 S-7 16 24 10 13 17 18 19



Log of Boring A-R-BOR-01 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 146 (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 -126.0 20 S-8 at 20ft Light brown fine-medium SAND, trace silt SS (wet) 20 21 2 2 22 23 24 25 Auger to 25ft Light brown fine-medium SAND, trace silt, trace coarse S-9 at 25ft SS S-9 (wet) 21 26 NLANGAN, COMIDATA\BOS\DATA1/1510101011PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 8 Bottom of boring at 6/2/2020 Boring backfilled with auger Bottom of Boring cuttings 28 29 30 31 32 33 34 35 36 37 38 39 43



A-R-BOR-02 Log of Boring 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 SoilTesting, Inc. 6/1/20 6/1/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 27 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. Completion Water Level (ft.) N/A N/A 8 N/A Casing Hammer N/A Drilling Foreman Weight (lbs) Drop (in) 140 John Knepple 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) 139. 10 20 30 40 Started Drilling at 6/1/2020 24" Dark brown fine-medium SAND, some fine gravel, 5 S-1 at 0ft trace silt, some roots SS 10 (dry) [TOPSOIL] <u>۲</u> 19 10 14 S-2 at 2ft Orangish brown fine-medium SAND, some fine gravel, SS 15 14 (dry) [FILL] 16 3 18 21 Auger to 4ft Orangish brown fine-medium SAND, some fine gravel, 8 Smooth drilling trace silt 12 S-3 at 4ft S-3 SS (dry) [FILL] 22 5 12 11 6 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Grayish brown fine-medium SAND, some fine gravel, trace 10 silt, trace roots SS 10 (dry) [FILL] S-4 22 7 12 8 Auger to 8ft Grayish brown fine-medium SAND, trace silt Smooth drilling (wet) SS S-5 S-5 at 8ft 9 ω 8 9 S-6 at 10ft Orangish brown fine SAND, trace silt 10 (wet) SS 10 S-6 15 11 12 12 13 14 Auger to 15.0ft SS Grayish brown fine-coarse SAND, trace fine gravel, trace 6 Smooth drilling 6 S-7 at 15ft (wet) 8 S-7 10 17 18 19



Log of Boring A-R-BOR-02 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 139 (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 -119.0 20 Drill to 20.0ft Grayish brown fine-coarse SAND, trace fine gravel, trace SS Smooth drilling 52 S-8 S-8 at 20ft (wet) 21 12 12 22 23 24 25 Drill to 25.0ft Orangish brown fine SAND, some silt Smooth to moderate drilling (wet) SS S-9 S-9 at 25ft 13 26 5 NLANGAN, COMIDATA\BOS\DATA1/1510101011PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 6 Bottom of boring at 6/1/2020 Boring backfilled with auger Bottom of Boring cuttings. 28 29 30 31 32 33 34 35 36 37 38 39 43

LANGAN

A-R-BOR-03 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 134 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/1/20 6/1/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 34.5 ft 29.5 ft 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 6 N/A Casing HammerN/A Drilling Foreman Weight (lbs) Drop (in) 30 140 John Knepple 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 Elev Recov. (in) Penetr. resist BL/6in Coring ( (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 134. 10 20 30 40 Started Drilling at 6/1/2020 12" Dark brown fine-medium SAND, some fine gravel, 2 S-1 at 0ft trace silt, some roots, trace debris 6 (dry) [TOPSOIL] 9 Grayish brown fine-medium SAND, some fine gravel, trace silt 11 (dry) [FILL] S-2 at 2ft Grayish brown fine-medium SAND, some fine gravel, 9 trace silt 20 3 (dry) [FILL] 10 Grayish brown fine SAND, some fine gravel, trace silt 13 4 Auger to 4ft, smooth drilling 7 ENTERPRISE Grayish brown fine SAND, trace silt S-3 at 4ft. (moist) S-3 SS 20 5 9 8  $\nabla$ 6 S-4 at 6ft. ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Grayish brown fine SAND, some silt 6 SS Wet in tip (wet) S-4 20 8 126.0 8 Auger to 8.0ft, smooth Orangish brown silty fine SAND 5 drilling (wet) SS S-5 at 8ft S-5 18 9 5 S-6 at 10ft Grayish brown silty fine SAND 4 SS (wet) 5 S-6 24 Some redox stirations 6 6 12 13 -119.0 Auger to 15.0ft, smooth SS Grayish brown fine SAND, some silt 8 drilling (wet) 9 S-7 at 15ft. S-7 4 Some redox stirations 16 17 18 19



A-R-BOR-03 Log of Boring 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 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 40 114. 20 Auger to 20.0ft, smooth Orangish brown fine-coarse SAND, some fine gravel, SS drilling. 8-8 34 S-8 at 20ft (wet) [TILL] 13 21 53 50/5 22 Possible obstruction from about 22ft to 24ft 23 24 25 Auger to 25.0ft, hard drilling. Grayish brown fine-medium SAND, some fine gravel, 17 S-9 at 25ft SS 27 (wet) [TILL] 10 30 28 28 29 Auger refusal encountered at 29.5ft. C-1 at 29.5ft 30 REC=57"/60" =95% 2:22 31 Gray SHIST; fine grained; slightly weathered; RQD=48.5"/60" moderate fracture spacing; rock quality good [BEDROCK] 5 2:31 32 33 \\LANGAN.COMIDATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTI 3:29 34 +99.5 Bottom of boring at 6/1/2020 Boring backfilled with auger 35 Bottom of Boring cuttings. 36 37 38 39 43

A-R-BOR-04 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 136 (NGVD29) Drilling Company Date Started Date Finished Seaboard Drilling, Inc 6/4/20 6/4/20 **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 10 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 Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 136. 10 20 30 40 0 Started Drilling at 6/4/2020 2" Brown fine-medium SAND, some silt, some roots +135.i (dry) [TOPSOIL] S-1 at 0ft SS 19 Brown fine SAND, trace silt, trace roots 2 GPJ SS S-2 at 2ft Brown fine SAND, trace silt, trace roots (dry) 12 3 Auger to 4ft S-3 at 4ft Brown fine SAND, some silt SS 2 ENTERPRISE (dry) 2 S-3 17 5 3 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine SAND, some silt (dry) SS S-4 15 Auger to 8ft 8 S-5 at 8ft Brown fine SAND, some silt 5 (moist) SS 9 က 7 10 S-6 at 10ft Brown fine SAND, some silt SS 4 (wet) 5 S-6 6 7 12 \\LANGAN.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 5 (wet) 4 8 S-7 16 17 Bottom of boring at 6/4/2020 Boring backfilled with auger Bottom of Boring cuttings. 18 Bottom of Boring 19

A-R-BOR-05 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 136 (NGVD29) **Drilling Company** Date Started Date Finished **Atlantic Testing Laboraties** 6/4/20 6/4/20 **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 15 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 136. 10 20 30 40 Started Drilling at 6/4/2020 24" Light brown fine SAND, some silt, trace roots WOH S-1 at 0ft (dry) [TOPSOIL] SS S-1 17 3 S-2 at 2ft Light brown fine SAND, trace silt SS 2 8 3 Auger to 4 ft 3 S-3 at 4ft Light brown fine SAND, trace silt 2 ENTERPRISE (dry) 3 S-3 SS 8 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, trace silt 3 (dry) SS S-4 22 Auger to 8 ft 3 8 S-5 at 8ft Brown fine-medium SAND, trace silt (moist) SS 20 9 5 S-6 at 10ft Brown fine-coarse SAND, trace silt 6 (moist) SS 6 S-6 20 9 12 (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 Auger to 15 ft S-7 at 15ft SS Brown fine-medium SAND, trace silt WOH (wet) WOH 16 S-7 16 2 17 Bottom of boring at 6/4/2020 Boring backfilled with auger Bottom of Boring cuttings. 18 19

A-R-BOR-06 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 139 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/4/20 6/4/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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/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 MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 139. 10 20 30 40 Started Drilling at 6/4/2020 4" Brown to light fine-medium SAND, some silt, some roots 138. S-1 at 0ft (moist) [TOPSOIL] Brown to light fine-medium SAND, some silt, trace roots SS (moist) GPJ S-2 at 2ft Brown to light fine-coarse SAND, trace silt 3 (moist) SS 3 15 3 Auger to 4ft 3 S-3 at 4ft Brown to light fine-medium SAND, trace silt 2 ENTERPRISE (moist) S-3 SS 4 5 6 8 6 \GINTLOGS\151010101 S-4 at 6ft Brown to light fine-coarse SAND, some f-c gravel, trace silt (moist) 10 SS S-4 8 7 11 Auger to 8ft 21 8 S-5 at 8ft Brown to light fine-coarse SAND, some silt, trace f-c gravel (moist) [TILL] 17 13 9 Gray to light fine-medium SAND, trace silt, trace f-c gravel 62 (moist) [TILL] Auger to 10ft 55 S-6 at 10ft Gray to light brown fine-medium SAND, some silt, trace f-c 20 gravel SS 18 S-6 (moist) [TILL] 4 35 17 16 12 13 14 Auger to 15ft, easy to moderate drilling (LANGAN.COM/DATA/BOS/DATA1/15101010 **2** 124.0 No Recovery S-7 at 15ft Bottom of boring at 6/4/2020 Bottom of Boring Boring backfilled with auger 16 cuttings. 17 18 19

A-R-BOR-07 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 154 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/4/20 6/4/20 **Drilling Equipment** Completion Depth Rock Depth CME75 Track Rig 10 ft 10 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 HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 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) Scale 154. 10 20 30 40 S-1 at 0ft 24" Dark brown fine-medium SAND, trace silt, trace fine 2 gravel, some roots (dry) [TOPSOIL] <u>۲</u> 6 WOH WOH 152. S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel SS 4 S-2 3 က 6 Drive casing to 4.0ft Brown fine-coarse SAND, some fine gravel, trace silt 8 ENTERPRISE S-3 at 4ft (moist) 13 S-3 SS 10 5 21 26 6 /\LANGAN.COM/DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ S-4 at 6ft Brown fine-coarse SAND, some fine gravel, trace silt 8 (moist) 13 SS S-4 13 21 26 8 Drive casing to 8.0ft Brown fine-coarse SAND, some fine gravel 5 S-5 at 8ft S-5 (moist) SS ω 11 9 Inferred Top of Bedrock 50/5 144.6 50/5 10 Roller bit refusal at 10ft refusal. Bottom of Boring Bottom of boring at 6/4/2020 Boring backfilled with soil cuttings 12 13 15 16 18 19

A-R-BOR-08 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 154 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/4/20 6/4/20 **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) 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 154. 10 20 30 40 Started Drilling at 6/4/2020 24" Brown fine-medium SAND, trace silt, trace roots 2 S-1 at 0ft (dry) [TOPSOIL] SS 3 <u>۲</u> 19 3 S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel SS 13 3 Auger to 4 ft S-3 at 4ft Brown fine-coarse SAND, trace silt, trace fine gravel 5 ENTERPRISE (dry) 7 S-3 SS 12 5 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 5 (dry) 5 SS S-4 16 Auger to 8 ft 5 8 SS S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 12 S-5 (dry) 12 20 9 100/4 100/4 S-6 SS 5 100/4 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 100/4 (dry) 11 12 Auger to 14 ft. (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) Drill to 15.0ft, heavy rig chatter 13 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt, trace fine gravel 13 (dry) 13 S-7 17 16 34 21 18 17 Bottom of boring at 6/4/2020 Boring backfilled with auger Bottom of Boring cuttings. 18 19



A-R-BOR-09 Log of Boring Sheet of 1 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 Atlantic Testing Laboraties 6/4/20 6/4/20 **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 N/E 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) 148. 10 20 30 40 Started Drilling at 6/4/2020 6" Light brown fine-medium SAND, trace silt, trace fine SS 3 S-1 at 0ft gravel, some roots (dry) [TOPSOIL] 8 16 Light brown fine-medium SAND, trace fine gravel 10 8 USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, trace fine gravel 8 8 15 3 Drive casing to 4ft Light brown fine-coarse SAND, trace silt 2 ENTERPRISE S-3 at 4ft (dry) S-3 SS 13 5 5 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, some fine gravel, trace silt 12 (dry) SS 18 S-4 16 36 18 19 8 Drive casing to 8ft Brown fine-coarse SAND, some fine gravel, trace silt 24 S-5 at 8ft (dry) 19 SS S-5 13 9 21 26 S-6 at 10ft Brown fine-coarse SAND, some fine gravel, trace silt 25 (dry) SS 18 S-6 20 39 21 26 12 S-7 at 12ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Drive casing to 14ft Brown fine-coarse SAND, some silt, some fine gravel 25 S-8 at 14ft (dry) 22 SS S-7 8 15 24 26 132.0 16 Bottom of boring at 6/4/2020 Boring backfilled with soil Bottom of Boring cuttings. 17 18 19



A-R-BOR-12 Log of Boring Sheet of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133 (NGVD29) **Drilling Company** Date Started Date Finished Seaboard Drilling, Inc 6/1/20 6/1/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 27 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 6 N/A 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 Automatic Taylor Sisti 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) 133. 10 20 30 40 0 Started Drilling at 6/1/2020 3" Dark brown fine-medium SAND, trace silt, trace roots, +132.i S-1 at 0ft 3in thick (dry)[TOPSOIL] SS Light brown fine SAND, trace silt 4 (dry) 2 GPJ SS S-2 at 2ft Light brown fine SAND, trace silt 2 3 Auger to 4ft S-3 at 4ft Light brown fine SAND, some silt, trace roots, mottled at 2 ENTERPRISE bottom of spoon 2 S-3 SS (moist) 13 5 2  $\nabla$ 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 2 SS (wet) S-4 4 5 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace coarse 3 gravel SS (wet) S-5 13 9 5 Auger to 10ft 5 S-6 at 10ft Light brown to black fine-coarse SAND, trace silt, trace fine 3 gravel SS 4 S-6 (wet) 18 5 6 12 ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling S-7 at 15ft SS Light brown medium-coarse SAND, trace silt, trace fine 2 gravel 4 (wet) S-7 22 6 17 18 19 Auger to 20ft, easy drilling



Log of Boring A-R-BOR-12 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 133 (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 -113.0 20 S-8 at 20ft Light brown medium-coarse SAND, trace silt, trace fine 2 24 21 Light brown fine SAND, some silt 2 (wet) 4 22 23 24 Auger to 25ft, easy drilling 25 S-9 at 25ft Light brown fine SAND, some silt (wet) SS 3 S-9 24 26 NLANGAN, COMIDATA\BOS\DATA1/1510101011PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 3 -106.0 Bottom of boring at 6/1/2020 Bottom of Boring Boring backfilled with auger cuttings 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-R-BOR-13 Log of Boring Sheet of 2 Proiect 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 Seaboard Drilling, Inc 6/1/20 6/1/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 26.5 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.) V N/A N/A N/A Drop (in) N/A Casing HammerN/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 Automatic Taylor Sisti Sample Data MATERIAL SYMBOL Remarks Depth Number Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 130. 10 20 30 40 0 Started Drilling at 6/1/2020 3" Light brown fine-medium SAND, some silt, trace roots -130. 10:54 AM (moist) [TOPSOIL] 2 S-1 at 0ft Light brown fine SAND, some silt, trace roots 8 SS 3 (moist) 3 USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace f-c gravel 5 19 BORINGS 3 6 Auger to 4ft 5  $\nabla$ S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 2 ENTERPRISE (wet) S-3 SS 20 5 4 6 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 5 (wet) SS S-4 23 8 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, some fine gravel, trace silt 3 (wet) 6 SS S-5 23 9 11 Auger to 10ft 9 S-6 at 10ft SS Light brown fine-coarse SAND, trace silt, trace f-c gravel 3 (wet) 3 119 19 Light brown fine SAND, some silt 5 (wet) 6 12 ANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling S-7 at 15ft SS Light brown silty fine-medium SAND 3 (wet) 4 S-7 24 17 18 Auger to 20ft, moderate drilling 18.5 to 20ft 19



Log of Boring A-R-BOR-13 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 Scale N-Value (Blows/ft) Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) 10 20 30 40 -110.5 20 S-8 at 20ft Light brown fine-coarse SAND, trace silt, trace f-c gravel 5 24 21 Light brown fine-coarse SAND, some silt, some f-c gravel, 17 trace clay 24 (wet) 22 23 24 Auger to 25ft, moderate drilling 25 S-9 at 25ft SS 13 Light brown fine-coarse GRAVEL, some f-c sand, trace clay, trace silt S-9 15 12 (wet) 26 13 Bottom of boring at 6/1/2020 Boring backfilled with auger NLANGAN.COMIDATA\BOS\DATA1/151010111PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ cuttings Bottom of Boring 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-R-BOR-14 Log of Boring Sheet of 2 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 6/1/20 6/1/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 32 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 10 N/A 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) 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) 135 10 20 30 40 Started Drilling at 6/1/2020 6" Dark brown fine-medium SAND, trace silt, some roots 3 135.0 (dry) [TOPSOIL] S-1 at 0ft SS <u>۲</u> USE.GPJ S-2 at 2ft Dark brown fine SAND, trace silt 5 SS (moist) 3 4 3 Auger to 4ft S-3 at 4ft Dark brown fine SAND, trace silt 2 ENTERPRISE (moist) 2 S-3 SS 13 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Dark brown fine-medium SAND, trace silt 3 (moist) SS S-4 16 Auger to 8ft 8 S-5 at 8ft Dark brown fine-medium SAND, trace silt, trace f-c gravel (moist) SS S-5 15 9 Auger to 10ft 6 S-6 at 10ft Dark brown fine-coarse SAND, trace silt, trace f-c gravel 3 (wet) SS 5 S-6 6 6 12 -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 14 Auger to 15ft, easy drilling S-7 at 15ft SS Dark brown fine-coarse SAND, trace silt, trace fine gravel 8 (wet) 8 S-7 24 9 17 18 19 Auger to 20ft, easy drilling



Log of Boring A-R-BOR-14 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 N-Value (Blows/ft) Elev Depth Sample Description (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Scale (ft) 10 20 30 40 115. S-8 at 20ft Dark brown fine-coarse SAND, trace silt, trace fine gravel SS (wet) 6 24 21 5 5 22 23 24 Auger to 25ft, easy drilling 25 S-9 at 25ft Dark brown fine-medium SAND, trace silt (wet) SS 8-9 24 26 NLANGAN.COMIDATA\BOS\DATA1/151010111PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_BORINGS_USE.GPJ 6 28 29 Auger to 30ft, moderate drilling 30 S-10 at 30ft Dark brown fine-medium SAND, trace silt 29 32 104. 31 Dark brown to black fine-medium SAND, trace silt, trace 40 fine gravel (wet) [WEATHERED ROCK] 47 32 Bottom of boring at 6/1/2020 Boring backfilled with auger cuttings. 33 Bottom of Boring 34 35 36 37 38 39 43

A-R-BOR-16 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 128 (NGVD29) Drilling Company Date Started Date Finished **Atlantic Testing Laboraties** 6/4/20 6/4/20 **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/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 (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 128. 10 20 30 40 Started Drilling at 6/4/2020 Brown fine SAND, trace silt 2 S-1 at 0ft (dry) SS 3 S-1 18 3 3 USE.GPJ 2 S-2 at 2ft Brown fine SAND, some silt SS (dry) 6 20 3 Auger to 4 ft 8  $\nabla$ S-3 at 4ft Brown fine SAND, some silt SS 3 ENTERPRISE (wet) S-3 4 5 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine SAND, some silt 2 SS (wet) S-4 22 7 Auger to 8 ft 3 8 S-5 at 8ft Brown fine SAND, some silt (wet) SS 13 9 3 2 S-6 at 10ft Brown fine-medium SAND, some silt 3 (wet) <u>ss</u> 2 S-6 24 5 5 12 "ILANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA 13 Auger to 14.0ft 14 S-7 at 15ft SS Brown fine-coarse SAND, trace silt (wet) WOH S-7 20 16 WOH 17 Bottom of boring at 6/4/2020 Bottom of Boring Boring backfilled with auger cuttings. 18 19

A-R-BOR-17 Log of Boring Sheet of 1 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** 6/8/20 6/8/20 **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) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in 4.6 N/A 14 Casing HammerAutomatic 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 129.0 10 20 30 40 0 S-1 at 0ft 4" Light brown fine SAND, some silt 128. 3 (dry) [TOPSOIL] <u>۲</u> 17 5 USE.GPJ 2 S-2 at 2ft Light brown fine SAND, trace silt SS 5 20 3 5 Drive casing to 4.0ft Light brown fine SAND, some silt SS 2 ENTERPRISE S-3 at 4ft (wet) 3 S-3 13 5 2 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine SAND, some silt 4 SS (wet) S-4 16 8 Drive casing to 8.0ft Light brown fine SAND, some silt SS 3 S-5 at 8ft (wet) S-5 9 4 3 10 S-6 at 10ft Light brown fine SAND, some silt SS 4 (wet) 6 8 Orangish brown fine-coarse SAND, trace silt 5 (wet) 11 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Drive casing to 14.0ft Grayish brown fine-medium SAND, some silt, some fine S-7 at 14ft gravel 17 SS (wet) [TILL] S-7 ω 15 43 28 -113.0 16 Started Drilling at 6/8/2020 Bottom of Boring Boring backfilled with soil cuttings. 17 18 19



A-R-BOR-18 Log of Boring Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/5/20 6/5/20 **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 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) 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) 133 10 20 30 40 Started Drilling at 6/5/2020 8" Dark brown fine-medium SAND, some silt, some roots, 132.9 S-1 at 0ft (moist) [TOPSOIL] 2 16 Light brown fine-medium SAND, some silt, trace roots (moist) 3 USE.GPJ SS S-2 at 2ft Light brown fine-coarse SAND, some silt, trace fine gravel 3 19 3 Auger to 4ft 6  $\nabla$ 4 S-3 at 4ft Light brown fine-coarse SAND, trace silt SS 4 ENTERPRISE (wet) 5 S-3 20 5 6 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 4 SS (wet) S-4 24 Auger to 8ft 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt, trace fine gravel (wet) SS S-5 18 9 2 Auger to 10ft 3 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 3 (wet) SS 3 S-6 15 6 6 12 ANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA/ 13 Auger to 15ft, easy drilling, moderate drilling starting at S-7 at 15ft No Recovery 77  $\mathbb{R}^{\mathbb{R}}$ 0 50/2 16 Hard drilling to 16ft, inferred boulder. Moderate drilling to 20ft 17 18 19



Log of Boring A-R-BOR-18 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (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 40 113. 20 S-8 at 20ft Brown to black fine-medium SAND, some silt, trace fine SS 22 S-8 (wet) [WEATHERED ROCK] 13 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_BORINGS_USE.GPJ...7/22/2020 9:55:43 AM ... Report: Log - LANGAN 21 38 16 21 22 Bottom of boring at 6/5/2020 Bottom of Boring Boring backfilled with auger cuttings. 23 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43



A-R-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) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/12/20 6/12/20 **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 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 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 150. 10 20 30 40 Started Drilling at 6/12/2020 Light brown fine-medium SAND, trace silt (dry) S-1 at 0ft SS 2 <u>۲</u> 4 3 USE.GPJ S-2 at 2ft SS Light brown fine-coarse SAND, trace silt 3 13 3 Auger to 4 ft 5 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 4 ENTERPRISE (dry) 7 S-3 15 5 10 11 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 10 (dry) SS 10 S-4 19 20 Auger to 8 ft 10 10 8 S-5 at 8ft Light brown fine-medium SAND, trace silt 10 (moist) 12 SS S-5 18 9 11 13 S-6 at 10ft Light brown fine-medium SAND, trace silt 4 (moist) SS 6 S-6 4 9 11 12 Auger to 15 ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine-medium SAND, trace silt 6 (moist) 6 S-7 20 17 Light brown fine-medium SAND, trace silt S-8 at 17ft 9 (moist) ss 10 S-8 18 7 25 15 Bottom of boring at 15 131. 19 6/12/2020 Bottom of Boring Boring backfilled with auger



Log of Boring A-S-BOR-01(OW) Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 7/1/20 7/1/20 **Drilling Equipment** Completion Depth Rock Depth Truck 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/A N/A 8 8.5 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 Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 133. 10 20 30 40 Started Drilling at 7/1/2020 Orangish brown fine-medium SAND, some silt, some roots SS 2 132.4 (moist) [TOPSOIL] S-1 at 0ft 2 12 Orangish brown SILT, some fine sand, trace roots 3 (moist) Orangish brown SILT, some fine sand S-2 at 2ft 5 (moist) 13 SS 3 8 -129.5 Brown fine-medium SAND, trace silt 11 Auger to 4ft 10 ENTERPRISE Brown fine-coarse SAND, trace silt, trace fine gravel S-3 at 4ft (moist) 11 S-3 SS 4 5 23 12 12 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 12 (moist) SS 11 S-4 16 10 8 Auger to 8ft Brown fine-coarse SAND, some f-c gravel, trace silt S-5 at 8ft (wet) 14 SS S-5 13 9 25 7 S-6 at 10ft Brown fine-coarse SAND, some f-c gravel, trace silt SS (wet) 9 S-6 20 7 12 JECT DATA 13 119. Auger to 15ft SS Brown fine-coarse SAND, some silt, some fine gravel 6 S-7 at 15ft (wet) [TILL] (\LANGAN.COM\DATA\BOS\DATA1\15 46 S-7 9 16 33 50/4 **2**+116.2 Bottom of boring at 7/1/2020 17 Boring backfilled with auger Bottom of Boring cuttings. 18 19



Log of Boring A-S-BOR-02 Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133 (NGVD29) **Drilling Company** Date Started Date Finished 7/2/20 7/2/20 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. Completion Water Level (ft.) N/A N/A 8 N/A Casing Hammer N/A Drop (in) N/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 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) 133. 10 20 30 40 Started Drilling at 7/2/2020 5" Brown fine-medium SAND, some silt, some roots 2 132 S-1 at 0ft (moist) [TOPSOIL] SS Brown sandy SILT, trace roots 18 6 (moist) 6 USE.GPJ 2 SS S-2 at 2ft Brown sandy SILT, trace roots 3 (moist) 16 3 5 Auger to 4ft Brown silty fine SAND 5 ENTERPRISE S-3 at 4ft (moist) 7 S-3 SS 19 5 8 13 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown silty fine SAND (moist) SS 10 S-4 15 125.0 8 SS TITLLING Auger to 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 6 S-5 at 8ft (wet) 8 S-5 9 5 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 9 (wet) SS 6 S-6 18 6 6 12 SS S-7 12 (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 19 13 50/3 50/3 14 15 Auger to 15ft Brown fine-coarse SAND, trace silt, trace fine gravel S-7 at 15ft (wet) 16 -116.8 17 Bottom of boring at 7/2/2020 Bottom of Boring Boring backfilled with auger cuttings. 18 19

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Project			Pr	oject No	).		4540	1010						
Hudson Logistics Center Location	<u>r</u>		El	evation a	and D		1510	1010	1					
59 Steele Road, Hudson	n NH						Elev.	+ 13 ⁻	1 (NC					
Drilling Company SoilTesting, Inc.	Da	ate Start	ed		7	//2/20		Date	Finished	d	7/2/20			
Drilling Equipment						th		12120		Rock	Depth		112120	
Truck Rig							D:-4-	12 ft				1	N/E	
Size and Type of Bit 4in Hollow Stem Auger			Νι	umber of	f Sam	ples	Distu	rbea	6		ndisturbe	-	Core	-
Casing Diameter (in) N/A		Casing Depth (ft) N/A	w	ater Lev	el (ft.)		First		4		ompletion	n N/A	24 HR.	N/A
4	eight (lbs) N/A	Drop (in) N/A	Dr	illing Fo	remar		_							
Sampler 2-inch-diameter split spo	oon	<u> </u>	Fi	eld Engi	neer	М	ike K	enne	dy					
	eight (lbs) 140	Drop (in) 30				Ta	aylor	Sisti						
Elev.				Depth	, in			nple Da		alue		Ren	narks	
Sar	mple Description			Scale	Number	Туре	Recov.	Penetr. resist BL/6in	(Blov	ws/ft)	(Dri Fluid L	lling Fluid, [ Loss, Drillin		asing, ce, etc.)
Brown fine-medium SA	AND, some silt, som	ne roots		E 0 -	-		-	2	10 20	30 40	Star	ted Drillii		
(moist) [TOPSOIL]  Brown SILT, some fine	e sand trace roots			<u> </u>	_S-1 <i>A</i>	SS	16	2			S-1	at 0ft		
(moist)	, and 10010			ļ '	- S-1E	』。፟፟፟፟፟፟፟፟፟፟		2						
Brown silty fine SAND				2	-			3			S-2	at 2ft		
(moist)				- 3 ·	S-2	s	18	3	8					
				-	3	SS SS		5			Aug	er to 4ft		
Brown silty fine SAND,	. mottled		$\overline{\Delta}$	4	1			5			"	at 4ft		
(wet)	,			<u> </u>	= e			5						
				5	S-3	SS	17	6	11					
Brown silty fine SAND				6	1			6			S-4	at 6ft		
(wet)				E	]_			7 5				at oit		
				7	S-48	SS	16	8	13					
				- 8	1			8			_	er to 8ft at 8ft		
Brown silty fine SAND (wet)					=			5 7			3-5	at oit		
				E 9	 	SS	18	8	15					
Brown fine-coarse SAN	ND, trace silt			10	- S-5F	3		7				-+ 40#		
[a] (wet)   (wet)   Brown fine-coarse SAN	ND. trace silt. trace	f-c gravel		F 10	=			5			5-6	at 10ft		
(wet)		9		11		SS	22	6 5	11					
119.0				12	3		22	6						
Bottom of Boring				F 12	=						Botte Borii	om of bo ng backf	ring at 7 illed with	7/2/2020 n auger
				13	=						cutti			· ·
				=	=									
				- 14	=									
				15										
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LANGAN	Log	of B	oring		A-S-	BOR-	04		Sheet 1	of	1	
Project Contain		Pro	ject No.		4.5	10101	24					
Hudson Logistics Center Location		Ele	vation ar	nd Da		101010	JT					
59 Steele Road, Hudson NH Drilling Company		Elev. + 131.5 (NGVD29)										
SoilTesting, Inc.		Date Started Date Finished 7/2/20 7/2/20										
Drilling Equipment						40.		Rock	Depth	N./F		
Truck Rig Size and Type of Bit	Nur	mber of S	Comr	Di	12 t sturbed	t	Un	disturbed	N/E Core			
4in Hollow Stem Auger Casing Diameter (in)	Casing Depth (ft)	-				rst	6	Co	mpletion -	24 HR.	-	
N/A Casing Hammer Weight (lbs)	N/A		ter Level	` ′		<u>Z</u>	8	Ţ	N/A	Ī	N/A	
Sampler	/A   Biop (iii) N/A	_	Ü			Kenne	edy					
2-inch-diameter split spoon Weight (lbs)	40 Drop (in) 30	Fiel	ld Engine	eer	Tavi	ar Ciati						
:	+0   30					or Sisti Sample [			Dom	orko		
Tall Part of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	on		Depth Scale	Number	Type Recov.	(in) Penetr. resist	N-Va (Blov	vs/ft)	(Drilling Fluid, D	narks Depth of Casir Resistance,	ng, etc.)	
8" Brown fine-medium SAND, some sil	lt, some roots		- 0 -	S-1A		3			Started Drillin S-1 at 0ft	ng at 7/2/2	:020	
Brown SILT, some fine sand, trace roo (moist)	its		1 -		SS SS 140 140 140 140 140 140 140 140 140 140	2 4	7 •					
Brown fine SAND, some silt			2 -	S-1B		4	-		S-2 at 2ft			
moist)			3 -	S-2	SS 17	5 5	10					
		Ē	- 4 -	4		5			Auger to 4ft			
Brown fine-medium SAND, trace silt ar sand layers 3-5 inches thick	nd SILT, some fine	4										
(moist)		E	5 -	S-3	SS F	i   7 4	11					
Rrown fine medium SAND trace silt at	um SAND, trace silt and SILT, some fine					5		S-4 at 6ft				
sand layers 3-5 inches thick (moist)	id SiL1, some inte		_ =	4	SS	7			o raton			
6 (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110) (110		E	- 7 <del>-</del>	S-4	SS	8	15		Auger to 8ft			
Brown fine-coarse SAND, trace silt, tra	ace fine gravel	$\overline{-}$	8 -			5	$+ \mid \cdot \mid$		S-5 at 8ft			
(wet)	Ü		- 9 -	S-5	SS		19					
		F		S		10						
Brown fine-medium SAND, trace silt, tr	race fine gravel	E	10 -			10	-		S-6 at 10ft			
wet)		F	11 -	9-S	SS 17	9	19					
119.5		E		0,		10 16						
Bottom of Boring			- 12 <del>-</del>				1		Bottom of bo Boring backfi	ring at 7/6. lled with a	/2020 luger	
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A-S-BOR-05 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 131 (NGVD29) **Drilling Company** Date Started Date Finished **Atlantic Testing Laboraties** 7/2/20 7/2/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 12 ft N/E 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 6 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 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 131. 10 20 30 40 0 Started Drilling at 7/2/2020 Brown fine-medium SAND, trace silt, trace roots 130.7 2 (dry) [TOPSOIL] S-1 at 0ft SS 2 16 Light brown fine SAND, some silt 3 (dry) 2 USE.GPJ SS S-2 at 2ft Light brown fine SAND, some silt 2 (dry) 2 BORINGS 4 3 3 Auger to 4ft, easy augering Light brown fine SAND, some silt SS ENTERPRISE S-3 at 4ft (moist) S-3 8 5 2 6 "\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, some silt 3 SS (wet) 3 S-4 8 Auger to 8ft, easy augering. Light brown fine SAND, trace silt SS 3 Water introduced to augers. (wet) S-5 S-5 at 8ft 9 3 10 S-6 at 10ft Light brown fine SAND, some silt 3 (wet) 2 S-6 20 2 2 -119.0 12 Bottom of boring at 7/2/2020 Bottom of Boring Boring backfilled with auger cuttings. 13 15 16 17 18 19



A-S-BOR-06 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 131.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/5/20 6/5/20 **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.) N/A N/A 8 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 /22/2020 9:56:00 AM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 131. 10 20 30 40 Started Drilling at 6/5/2020 Orangish brown fine SAND, trace silt 3 S-1 at 0ft (dry) SS 3 <u>۲</u> 16 3 USE.GPJ S-2 at 2ft Orangish brown fine SAND, some silt SS (moist) 16 BORINGS 3 Auger to 4.0ft S-3 at 4ft Orangish brown fine SAND, some silt SS 2 ENTERPRISE (moist) 2 S-3 17 5 2 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Orangish brown fine SAND, some silt 3 SS (moist) 2 S-4 8 Auger to 8.0ft 3 8 S-5 at 8ft Orangish brown fine SAND, some silt (wet) SS S-5 15 9 2 2 S-6 at 10ft Orangish brown fine SAND, some silt 2 (wet) <u>ss</u> 2 S-6 18 2 2 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15.0ft 14 S-7 at 15ft SS Orangish brown fine-medium SAND, some silt, trace fine 3 gravel 6 (wet) 15 S-7 16 13 20 17 Orangish brown gravelly fine-coarse SAND, some silt S-8 at 17ft 32 (wet) SS 10 S-8 18 ω 6 5 19 Bottom of boring at 6/5/2020 Bottom of Boring Boring backfilled with auger cuttings.

A-S-BOR-07 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 129.5 (NGVD29) Drilling Company Date Started Date Finished Atlantic Testing Laboraties 6/5/20 6/5/20 **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.) N/A N/A 6 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) 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 129. 10 20 30 40 Started Drilling at 6/5/2020 Brown fine SAND, trace silt S-1 at 0ft (dry) 2 <u>۲</u> 16 3 3 USE.GPJ S-2 at 2ft Brown fine SAND, some silt SS (dry) 8 BORINGS 3 Auger to 4 ft S-3 at 4ft Brown fine SAND, some silt SS 2 ENTERPRISE (moist) 2 S-3 4 5 3 3  $\nabla$ 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine SAND, some silt 3 SS (wet) S-4 19 Auger to 8 ft 3 8 SS TILLING S-5 at 8ft Brown fine SAND, some silt (wet) 15 9 2 S-6 at 10ft Brown fine-medium SAND, trace silt 2 (wet) 3 S-6 20 4 12 "ILANGAN.COMIDATA/BOS/DATA1/151010101/PROJECT DATA 13 Auger to 15 ft 14 S-7 at 15ft SS Brown fine-coarse SAND, some fine gravel, trace silt (wet) 5 15 S-7 16 17 Brownish gray fine-coarse SAND, some fine gravel, trace S-8 at 17ft 3 silt (wet) SSE 49 S-8 8 18 16 14 110.5 Bottom of boring at 6/5/2020 19 Boring backfilled with auger Bottom of Boring cuttings

A-S-BOR-08 Log of Boring Sheet of 1 Project 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 SoilTesting, Inc. 7/2/20 7/2/20 **Drilling Equipment** Completion Depth Rock Depth Truck Rig 12 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 Automatic Taylor Sisti Sample Data /22/2020 9:56:06 AM MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 146. 10 20 30 40 0 Started Drilling at 7/2/2020 4" Dark brown fine-medium SAND, trace silt, trace roots 146.2 2 S-1 at 0ft (moist) [TOPSOIL] 3 4 Light brown fine-medium SAND, trace silt 3 3 SS S-2 at 2ft Light brown fine-medium SAND, trace silt 2 2 8 3 Auger to 4ft. Easy drilling S-3 at 4ft Light brown fine-medium SAND, trace silt ENTERPRISE (dry) 7 S-3 SS 24 5 10 15 6 "\LANGAN.COM\DATA\BOS\DATA1\151010101\PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 16 (dry) 17 SS S-4 8 35 Auger to 8ft. Easy drilling 18 23 8 SS S-5 at 8ft Light brown fine-medium SAND, trace silt 12 (dry) 17 S-5 9 26 27 10 S-6 at 10ft No Recovery 30 SS 31 S-6 0 36 40 134. 12 Bottom of boring at 7/2/2020 Bottom of Boring Boring backfilled with auger cuttings 13 15 16 18 19

A-S-BOR-09 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140 (NGVD29) Date Started **Drilling Company** Date Finished 7/2/20 7/2/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth 6 ft 12 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 11 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) Automatic 140 30 Taylor Sisti Sample Data /22/2020 9:56:08 AM 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 7/2/2020 7" Brown fine-medium SAND, some silt, some roots 2 139.4 (moist) [TOPSOIL] S-1 at 0ft 2 8 Brown silty fine SAND, trace roots 2 (moist) 3 SS S-2 at 2ft Brown fine SAND, some silt, trace roots 2 (moist) 3 19 3 3 Brown silty fine SAND Auger to 4ft 3 ENTERPRISE S-3 at 4ft (moist) 6 S-3 SS 48 5 5 5 +134.0 6 S-4 at 6ft /LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA|_DISCIPLINE\GEOTECHNICAL\GINTLOGS/151010101 Brown fine-medium SAND, trace silt 6 (moist) SS S-4 16 7 13 9 8 Auger to 8ft Brown fine-medium SAND, trace silt 3 S-5 at 8ft (moist) SS S-5 15 9 6 7 10 S-6 at 10ft Brown fine-course SAND, trace silt, trace fine gravel 10 (wet) SS 8 S-6 9 28 -128.0 12 Bottom of boring at 7/2/2020 Bottom of Boring Boring backfilled with auger cuttings. 13 15 16 18 19

Project No.   Isolato Logistics Center   Project No.   Isolato International Control   Isolato International Control   Isolato International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control International Control Int			VU	1/V	Log	of E	3oring		A-S	-BOR-	10		Sheet	1	of	1
Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars   Elevation and Dalars		Project				Pr	oject N	0.								
Date Started   Date Finished   Trizk Rig   Date Finished   Trizk Rig   Trizk Rig   Date finished   Trizk Rig   T		Location	Hudson Logistics Ce	:nter		El	evation	and D		1510101	01					
SollTesting, Inc.  Truck Rig  Size and Type of offer Ain Hollow Slem Auger  Casing Dameter (ii) N/A  Casing Harmery N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery Safety Weight (ibs) N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casing Harmery N/A  Casin				dson NH					E	Elev. + 1	35 (NG	VD2	9)			
Completion Depth   Completion Depth   Truck Rig   Completion Depth   Truck Rig   Truck Rig   Disturbed   Core   Completion Depth   Truck Rig   Disturbed   Core   Completion   Core   Core   Completion   Core   Completion   Core   Completion   Core   Completion   Core   Completion   Core   Completion   Core   Core   Completion   Core		Drilling Compa	•			Da	ate Star	ted		71010		Date	Finished		7/0/00	
Truck Rig		Drilling Equipn						n Dep	oth	7/2/2		Rock	Depth		7/2/20	
Ain Hollow Stem Auger  Casing Depth (ft) N/A  Casing Harmmer  Sampler  Sampler Jench-diameter split spoon  Sampler Hammer  Safety  Weight (fbs)  Sample Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Sampler Description  Taylor Sist  Romarks  Goiling Faul Agent of String, Torosoid, Toros			Truck Rig				•			10					10 ft	
Casing Depth (ft) N/A  Weglit (libs) N/A  Diffiling Foroman  Mike Kennedy  Fed Engineer  Taylor Sist1  Taylor Sist		Size and Type		ner		Νι	umber c	of Sam	ples	Disturbed		Ur	ndisturbed	_	Core	_
Casing Hammer (NA) Weight (ibs) NA Drop (in) NA Drilling Foreman Mike Kennedy  Sampler 2-inch-diameter split spoon Sampler Hammer Safety Weight (ibs) 140 Drop (in) 30 Field Engineer  Sample Description  Sample Description  Sample Description  Sample Description  Sample Description  Sample Description  Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sample Data Sam		Casing Diame	ter (in)	,,,,		w	ater Le	vel (ft.)	,	First				^		N1/A
Sampler Hammer  Safety  Sample Description  Sa	Ś	Casing Hamm		Weight (lbs)	Drop (in)			` '		<u> </u>	N/E	_   -	<u> </u>	Α	<u> </u>	N/A
Sampler Harmser Safety Weight (bbs) 140 Prop (in) 30 Taylor Sist:    Sample Description   Sam	r. Log				IN/A	L			Mi	ke Kenn	edy					
Sample Description   Depth   Sample Description   Depth   Scale     Sample Description   Scale     Sample Description   Scale     Sample Description   Scale     Sample Description   Scale   Sample Description   Scale   Sample Description   Scale   Sample Description   Scale   Sample Description   Scale   Sample Description   Scale   Sample Description   Sample D	cepor	Sampler Hami		Moight (lbs)	Drop (in)	Fi	eld Eng	ineer	То	vlor Siot	:					
S-Light brown fine-medium SAND, some silt (dry)  1330  Light brown fine-medium SAND, some silt (dry)  1340  Light brown fine-medium SAND, some silt (dry)  1350  Light brown fine-medium SAND, some silt (dry)  1360  Light brown fine-medium SAND, some silt (dry)  1370  Light brown fine-medium SAND, trace silt, trace fine gravel (dry)  1380  Light brown fine-medium SAND, trace silt, trace fine gravel (dry)  1390  Bottom of Boring  100  Bottom of Boring  111  121  132  1330  Slarted Dnilling at 7/2/2020 S-1 at 0ft  S-2 at 2ft  Auger to 4ft S-3 at 4ft  S-4 at 6ft  S-5 at 8ft  S-6 at 6ft  S-7 at 6ft  S-7 at 6ft  S-7 at 6ft  S-8 at 6ft  S-9 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-1 at 6ft  S-2 at 2ft  S-2 a	:	<u>-</u> ا	Salety	140	30				ıa	Sample	n Data		<u> </u>			
Started Drilling at 7/2/2020 Sala   34   5   4   5   5   Signature   4   5   5   Signated Drilling at 7/2/2020 Signature   5   5   Signated Drilling at 7/2/2020 Signature   5   5   Signated Drilling at 7/2/2020 Signature   5   5   Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signated Drilling at 7/2/2020 Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signature   5   Signa	2	Elev.		Sample Description			Depti	n der	be/	n) n) netr. sist	N-Va	alue /s/ft)				sing,
134.6   S. Light brown fine-medium SAND, some silt (dry)   S-1 at 0ft	300	1100.0						, In		Per la g	10 20					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  10  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  11  12  13  14  15  16  17  18  18  18  19  10  10  12  13  10  10  11  11  11  11  11  11  11	2020	134.6	(moist) [TOPSOIL]			/	‡	S-1A			.				ig at 1/2/	2020
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	177		Light brown SILT,	some fine sand, trace i	roots	_	- 1	=	SS	9	9•					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	2	133.0					Ē,	S-1E	4		5   \					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  10  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  11  12  13  14  15  16  17  18  18  18  19  10  10  12  13  10  10  11  11  11  11  11  11  11	J L L		Light brown fine-co	oarse SAND, some silt			F	=		9	$\exists \mid \setminus \mid$		S-2 at 2f	t		
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	200		(dry)				F 3	3.5 2.5	SS	7	17					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.							F	= 0		9			Auger to	4ft		
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	ם ש		Light brown fine-m	edium SAND, some si	It		- 4	1	Ħ	_	$ \cdot $		1			
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  10  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  11  12  13  14  15  16  17  18  18  18  19  10  10  12  13  10  10  11  11  11  11  11  11  11	2			,			Ē _	- E		10	5					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  10  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  11  12  13  14  15  16  17  18  18  18  19  10  10  12  13  10  10  11  11  11  11  11  11  11	Ż						F 5	- S		17	32	2				
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.		129.0					Ė 6	1		17	_					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  t 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	2			edium SAND, trace silt	t, trace fine gravel		E	1	ΙĦ	12			S-4 at 6f	İ		
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.  Bottom of boring at 7/2/2020 Boring backfilled with auger cuttings.	2		(dry)				7	4	SS	<u> </u>	25					
Light brown fine-coarse SAND, trace silt, trace fine gravel (dry)  10  Bottom of Boring  Bottom of Boring  Bottom of Boring  Bottom of Boring  11  12  13  14  15  16  17  18  18  18  19  10  10  12  13  10  10  11  11  11  11  11  11  11	200						F	= "	ΙB				Auger to	8ft		
Bottom of Boring	7		Light brown fine-co	parse SAND, trace silt,	trace fine gravel		8	+	ΗĦ		<del>' </del>		_			
Bottom of Boring	פַ		(dry)		· ·		Ē,	2		(0) 10						
Bottom of Boring	<u>ک</u>						F 9	٩	S	12	22•					
Bottom of Boring  - 11	2	125.0					<u> </u>	1	且	13	3		Pottom	f hai	ring of 7	12/2020
- 12			Bottom of Boring				Ė.	=					Boring b	ackfi	lled with	auger
- 13							_ 11	4					cuttings.			
- 13	֡֝֝֟֝֝֟֝֝֟֝֝֟֝						Ė	₫								
	ב						<del>-</del> 12	4								
							L 13	Ė								
- 15	2						- 13	=								
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	Ź						<del> </del> 19	=								

	NUL	<b>1/V</b>	Log	of Boring _	Α-9	S-BOR-11			Sheet 1	of
Project				Project No.						
Lagation	Hudson Logistics Ce	enter		Floretien and		151010101				
Location	50 Otaala Daad Haa	da e e NILI		Elevation and			5 /N/	O) (D	200)	
Drilling Com	59 Steele Road, Hud	ISON INH		Date Started		Elev. + 132			029) Finished	
21g 00	SoilTesting, Inc.					6/22/20				
Drilling Equip				Completion De	epth	6/22/20	F	Rock	Depth	OILLILO
	CME Truck-Mounted	d Drill Rig				22 ft				N/E
Size and Typ	pe of Bit	-		Number of Sa	mples	Disturbed		Un	ndisturbed	Core
Casing Diam	4in Hollow Stem Aug	ger	Casing Depth (ft)		•	First	8	Co	- ompletion	24 HR.
J	N/A		Nì/Á	Water Level (f		$\nabla$	8		▼ N/A	<u></u>
Casing Ham	ime[N/A	Weight (lbs) N/A	Drop (in) N/A	Drilling Forem	an					
Sampler	2-inch-diameter split		·			ohn knepple	!			
Sampler Har		Moight (lbs)	Drop (in)	Field Enginee		41- 1-1				
<u> </u>	Automatic	140	30	1	K	enneth Iden Sample Da				
SYMBOL (tj.)		Comple Description		Depth	<u>.</u> е		N-Val	ue		narks
(ft)		Sample Description		Scale	Type	Recov. (in) Penetr. resist BL/6in	(Blows	,	(Drilling Fluid, E Fluid Loss, Drilling	Depth of Casing, g Resistance, etc
11/2 11/2	6" Dark brown fine	SAND, trace silt, trace	e roots	— t 0 <del> </del>			10 20 3	U 40	Started Drillin	
132	(dry) [TOPSOIL]	. ,		_/ŧ		1   -			S-1 at 0ft	
		AND, some silt, trace i	roots	F 1 =	SS	۳ ₄ ۲	1			
	(dry)			= = s-	1B	4				
	Light brown silty fir	ne SAND			╅	3			S-2 at 2ft	
	(dry)			ļ , - ],	ا ال	2				
				F 3 = 2	SS S	£ 3 2				
				E 4 =		3			Auger to 4ft,	Easy Augeri
	Light brown fine S	AND, some silt		F * T		4			S-3 at 4ft	
	(moist)			5 = 5	SS	5 5	, l			
				E 2 3 4	)  s	5 5	<b>'</b> [			
				6 =		5				
	Light brown silty fir (moist)	ne SAND		F * =	1	6			S-4 at 6ft	
	(IIIOISI)			F 7 = 3	SS S	8 7 6 1	3			
				F . 3,	" "[	1 1 1			Auger to 8ft,	Easy Augori
	Limbs branco ails of	CAND		¥ 8 ±	1	7			S-5 at 8ft	Lasy Augeni
	Light brown silty fir (wet)	ne Sand		E 3		6			0-5 at oit	
				- 9 - 1	SS S	e   10	16			
				‡ ‡	ĺ	6				
	Light brown fine-co	parse SAND, trace silt		10	╅	4			S-6 at 10ft	
	(wet)	Jan 33 37 ii 12 , ii 433 3 ii 1		<u> </u>	.l ≣	1   _				
				F 11 = 3	SS	<del>                                      </del>	3+			
				E = 1		9				
				F 12 +	<del>                                     </del>				Auger to 15ft	, Easy Auge
*****				F 3						
				- 13 -						
				<b> </b>						
				- 14 -						
				15						
		oarse SAND, trace silt				7			S-7 at 15ft	
	(wet)			16 - 16	SS SS	7 ص	16			
				F ' 4	"   "	3 1 1				
				17	<u> </u>	8			Augenta 005	- Fooy A
				Ė '' ╡					Auger to 20ft	, ∟asy Augei
				18						
				[						
				- 19 -						
				E ∃						
				<u> </u>				Ш		



Log of Boring A-S-BOR-11 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 132.5 (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 40 112. 20 S-8 at 20ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS (wet) 3 S-8 15 NLANGAN.COMIDATA/BOSIDATA1/151010101/PROJECT DATA_DISCIPLINE/GEOTECHNICAL/GINTLOGS/15101010_ENTERPRISE_BORINGS_USE.GFJ....7/22/2020 9:56:13 AM ... Report: Log - LANGAN 21 3 -110.5 22 Bottom of boring at Bottom of Boring 6/22/2020 Boring backfilled with auger 23 cuttings. 24 25 26 28 29 30 31 32 33 34 35 36 37 38 39 40 43

A-S-BOR-12 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 130 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/20/20 6/20/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 12 ft N/E 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 6 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 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) 130. 10 20 30 40 0 Started Drilling at 6/20/2020 5" Brown fine-medium SAND, some silt, some roots SS 2 129. S-1 at 0ft (dry) [TOPSOIL] 2 Brown SILT, some fine sand, trace roots 2 (dry) USE.GPJ 2 SS S-2 at 2ft Brown silty fine SAND, trace roots 2 (moist) 3 8 3 3 Auger to 4ft 4 SS S-3 at 4ft Brown silty fine SAND, bottom half mottled 5 ENTERPRISE (moist) 2 S-3 6 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown to brown silty fine SAND, upper half mottled 2 SS (wet) S-4 18 7 Auger to 8ft 8 S-5 at 8ft Brown to brown silty fine-medium SAND (wet) SS 10 9 6 10 S-6 at 10ft SS Brown fine-medium SAND, some silt 4 (wet) 3 21 3 Brown fine-coarse SAND, trace silt 5 118.0 12 (wet) Bottom of boring at Bottom of Boring "ILANGAN.COMIDATA\BOS\DATA1\15101010101\PROJECT DATA\ 6/20/2020 Boring backfilled with auger 13 cuttings. 14 15 16 17 18 19

A-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. + 134 (NGVD29) Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/22/20 6/22/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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/A N/A 10 N/A Casing Hammer N/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) 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) 134. 10 20 30 40 Started Drilling at 6/22/2020 7" Light grayish brown fine SAND, trace silt, trace roots (dry) [TOPSOIL] 2 133. S-1 at 0ft 2 15 Light brown silty fine-medium SAND 2 SS S-2 at 2ft Light brown silty fine-medium SAND 2 2 3 3 3 130.0 Auger to 4ft. S-3 at 4ft Brown fine-coarse SAND, some f-c gravel, trace silt 13 ENTERPRISE (moist) 16 S-3 SS 13 5 10 9 6 S-4 at 6ft ECHNICAL\GINTLOGS\151010101 Brown fine-coarse SAND, some f-c gravel, trace silt 8 (moist) 10 SS S-4 7 11 8 Auger to 8ft. S-5 at 8ft Brown fine-medium SAND, some silt 5 (moist) 10 9 Grayish brown fine-coarse SAND, some fine gravel, trace 9 22 silt, trace weathered gravel (moist) [TILL] 35 10 S-6 at 10ft Grayish brown fine-coarse SAND, some fine gravel, trace 21 silt, trace weathered gravel SS 13 S-6 (wet) [TILL] 4 25 39 12 Auger to 13ft. Hard drilling DATA/ and heavy chatter. No Recovery Inferred Top of Bedrock 13 _S-7 SS 0 50/3 S-7 at 13ft -120.8 \\LANGAN.COM\DATA\BOS\DATA1\15101010101\PROJECT Auger and spoon refusal at 13ft. 14 Bottom of boring at Bottom of Boring 6/22/2020 Boring backfilled with auger 15 cuttings 16 17 18 19



A-S-BOR-14 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 134.5 (NGVD29) **Drilling Company** Date Started Date Finished **Atlantic Testing Laboraties** 6/5/20 6/5/20 **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) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in N/A Casing HammerAutomatic Weight (lbs) Drop (in) Drilling Foreman 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 0 Started Drilling at 6/5/2020 4" Dark brown fine-medium SAND, trace silt, some roots SS 134. S-1 at 0ft (dry) [TOPSOIL] 2 8 5 2 SS S-2 at 2ft Light brown silty fine-medium SAND 5 3 S-3 at 4ft Brown silty fine-medium SAND SS 3 ENTERPRISE Drive casing to 4.0ft (wet) 5 S-3 5 6 6 6 +128.5 6 S-4 at 6ft DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 Brown fine-coarse SAND, trace silt, trace gravel 8 SS (wet) 9 S-4 4 10 8 Drive casing to 8.0ft Brown fine-coarse SAND, some fine gravel 5 S-5 at 8ft (wet) SS S-5 9 6 7 S-6 at 10ft Brown fine-coarse SAND, some fine gravel 10 (wet) SS 11 S-6 12 10 12 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Open hole to 14ft, easy Brown fine-coarse SAND, some fine gravel 6 drilling (wet) 8 SS S-7 at 14ft S-7 9 10 -118. Bottom of boring at 6/5/2020 Bottom of Boring Boring backfilled with soil cuttings 17 18 19

A-S-BOR-15 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 135 (NGVD29) Date Started **Drilling Company** Date Finished 6/5/20 6/5/20 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. 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 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) 135. 10 20 30 40 Started Drilling at 6/5/2020 24" Brown fine-medium SAND, trace silt, trace fine gravel, 2 S-1 at 0ft SS (dry) [TOPSOIL] <u>۲</u> 17 5 2 S-2 at 2ft Brown fine-medium SAND, trace silt, trace fine gravel 10 SS **S-2** 17 9 3 23 Auger to 4ft Brown fine-medium SAND, trace silt, trace fine gravel S-3 at 4ft 44 ENTERPRISE (dry) 28 S-3 SS 20 5 29 41 6 S-4 at 6ft \GINTLOGS\151010101 Brown fine-medium SAND, some silt, trace f-m gravel 42 (moist) SS S-4 20 45 Brown fine-coarse SAND, some silt Auger to 8ft S-5 lss  $\exists$ 29 50/1 9 S-5 at 8ft (moist) [TILL] 9 S-6 at 10ft Brown fine-coarse SAND, some silt, some f-c gravel SS 19 (moist) [TILL] S-6 0 41 Auger to 15ft 12 13 14 S-7 at 15ft SS Brown fine-coarse SAND, some clay, some silt, some f-c 23 26 (moist) [TILL] 15 S-7 (\LANGAN.COM\DATA\BOS\DATA1) 16 17 17 Bottom of boring at 6/5/2020 Bottom of Boring Boring backfilled with auger cuttings. 18 19

	NVG/	1/V	Log	g of Boring A-S-BOR-16 Sheet 1 of 1							
Project	Hudson Logistics Ce	nter		Project No. 151010101							
Location				Elevation and Datum							
Drilling Com		ISON INFI		Elev. + 157.5 (NGVD29)  Date Started Date Finished							
Drilling Equi	SoilTesting, Inc.			7/2/20         7/2/20           Completion Depth         Rock Depth							
Size and Ty	Truck Rig			7 ft 7 ft Open Core							
_	4in Hollow Stem Aug	jer	Casing Depth (ft)	Number of Samples 4							
Ž	N/A	Weight (lbs)	Drop (in) N/A	water Level (π.)							
Sampler Ha		N/A	N/A	Sam Deangelis							
Sampler Ha	2-inch-diameter split mmer Automatic	Weight (lbs)	Drop (in) 30	Field Engineer  Taylor Sisti							
MATERIAL SYMBOL B)		Sample Description		Depth Scale Sample Data Remarks Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scale Scal							
Ele (ft symbol 122/2/2/2/2/3/3/3/3/3/3/3/3/3/3/3/3/3/3/	7.5 7.2 4" Dark brown fine (moist)[TOPSOIL]	-medium SAND, trace	silt, trace roots								
	Light brown fine-m (dry)	edium SAND, trace sil	t	Started Drilling at 7/2/2020 S-1 at 0ft  S-2 at 2ft							
5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Light brown fine-co	parse SAND, trace silt,	trace fine gravel	2 - 7 S-2 at 2ft							
SOR SOR				S-2 at 2ft  Auger to 4ft. Easy drilling $ \begin{array}{cccccccccccccccccccccccccccccccccc$							
ENTERPRISE BORINGS USE: GFJ	Light brown fine-co	parse SAND, some fine	e gravel, trace silt	t							
1151	Light brown fine-co	parse SAND, some fine	e gravel, trace silt	S-4 at 6ft							
150	).3 Inferred Top of Bed	drock	γ	Auger refusal at 7ft Bottom of boring at 7/6/2020	)						
L'GIN IL	Bottom of Boring			cuttings.							
N N N N N N N N N N N N N N N N N N N											
E/GEO				- 10 -							
DISCIPLIN				- 12 -							
DAIA											
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A-S-BOR-17 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 140.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished 7/1/20 7/1/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 14 ft 14 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 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 Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 140. 10 20 30 40 0 Started Drilling at 7/1/2020 4" Dark brown fine-medium SAND, trace silt, trace roots SS 140.2 2 S-1 at 0ft (moist) [TOPSOIL] 2 4 Light brown fine SAND, trace silt, some roots 2 3 SS S-2 at 2ft Light brown fine SAND, some silt 3 3 16 3 Auger to 4 ft. Easy drilling 8 136. S-3 at 4ft Light brown fine-coarse SAND, trace silt 33 ENTERPRISE (dry) 11 S-3 SS 5 6 10 10 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 10 (dry) SS S-4 12 Auger to 8ft. Easy drilling 6 8 S-5 at 8ft Light brown fine-medium SAND, trace silt (dry) SS S-5 10 9 6 8 S-6 at 10ft Light brown fine-medium SAND, trace silt, trace fine gravel 10 (dry) SS 10 S-6 9 11 19 12 Auger to 15.0ft. Heavy rig chatter \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 No Recovery Inferred Top of Bedrock 126.5 50/0 -S-7 SS 0 50/0 Auger refusal at 14ft S-7 at 14ft Bottom of boring at 7/1/2020 15 Bottom of Boring 16 17 18 19

A-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. + 153.5 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/4/20 6/4/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 19.5 ft 19.5 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 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) 140 30 Automatic 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) 153 10 20 30 40 Started Drilling at 6/4/2020 24" Brown fine-medium SAND, trace silt 3 S-1 at 0ft (dry) [TOPSOIL] SS 3 <u>۲</u> 16 6 151.5 S-2 at 2ft Brown fine-medium SAND, trace silt SS 5 10 3 5 Auger to 4ft Brown fine-medium SAND, trace silt ENTERPRISE S-3 at 4ft (dry) 5 S-3 SS 17 5 3 6 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, trace silt 8 (moist) SS S-4 8 Auger to 8ft Brown fine-medium SAND, trace silt, trace fine gravel 8 S-5 at 8ft (moist) SS S-5 13 9 5 7 S-6 at 10ft Brown fine-medium SAND, some fine gravel, trace silt 15 (moist) ss 17 S-6 13 15 16 12 Auger to 15ft (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 S-7 at 15ft Brown fine-medium SAND, trace silt, trace fine gravel SS 40 (moist) 3 S-1 54 16 50/5 50/5 17 18 Auger Refusal at 19.5ft Bottom of boring at 6/4/2020 19 Inferred Top of Bedrock Boring backfilled with auger Bottom of Boring



Log of Boring A-S-BOR-19(OW) Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 151 (NGVD29) Date Started **Drilling Company** Date Finished 7/2/20 7/2/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth Truck Rig 19 ft 19 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 Sam Deangelis 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 151. 10 20 30 40 Started Drilling at 7/2/2020 5" Light brown fine-medium SAND, trace silt, trace root 150. 3 (moist) [TOPSOIL] S-1 at 0ft 4 8 Light brown fine SAND, trace silt, some roots 3 S-2 at 2ft Light brown fine SAND, some silt WOH SS 10 3 Auger to 4ft. Easy drilling 3 147.0 S-3 at 4ft Brown fine-coarse SAND, trace silt SS 2 ENTERPRISE (dry) 2 S-3 13 5 3 6 GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, trace silt, trace fine gravel (dry) SS S-4 15 Auger to 8ft. Light rig chatter 12 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel 3 (dry) 5 SS S-5 4 9 8 25 S-6 at 10ft Brown fine-coarse SAND, some silt, trace fine gravel 60 (dry)[TILL] 33 S-6 24 38 48 12 Auger to 15.0ft. Moderate rig 13 14 S-7 at 15ft SS Brown fine-coarse SAND, some silt, trace fine gravel 29 (dry) [TILL] 30 S-7 22 30 32 17 Auger to 20ft. Heavy rig chatter Auger refusal at 19ft 18 No Recovery S-8 at 19ft Inferred Top of Bedrock Bottom of boring at 7/2/2020 132.0 Observation well installed. 19 S-8 SS 0 50/0 Refer to well construction Bottom of Boring

20



A-S-BOR-20 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 152.5 (NGVD29) 59 Steele Road, Hudson NH **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/4/20 6/4/20 **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 Recov. (in) (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 152 10 20 30 40 Started Drilling at 6/4/2020 24" Light brown fine-medium SAND, some silt, trace fine gravel, trace roots (dry) [TOPSOIL] S-1 at 0ft SS <u>۲</u> 150. S-2 at 2ft Light brown fine-medium SAND, trace silt, trace fine gravel SS S-2 10 3 Auger to 4 ft 5 S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel 2 ENTERPRISE (dry) SS 3 S-3 12 5 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 10 (dry) SS S-4 8 Auger to 8 ft 8 S-5 at 8ft Light brown fine-medium SAND, some silt 3 (dry) 9 S-5 SS 18 9 25 16 17 S-6 at 10ft Light brown fine-medium SAND, trace silt SS 30 8-6 (dry) 100/5 100/5 12 (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 Auger to 14 ft. Drill to 15.0ft 14 S-7 at 15ft SS Light brown fine-coarse SAND, trace silt, trace fine gravel 16 (dry) 23 S-7 16 2 35 36 135.5 17 Bottom of boring at 6/4/2020 Boring backfilled with auger Bottom of Boring cuttings. 18 19

A-S-BOR-21 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 141.5 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished 6/9/20 6/9/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 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. 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 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 141. 10 20 30 40 Started Drilling at 6/9/2020 8" Brown fine SAND, trace silt, trace roots 2 S-1 at 0ft 140.8 [TOPSOIL] (dry) SS <u>۲</u> 18 3 USE.GPJ S-2 at 2ft Brown fine-medium SAND, trace silt, trace f-c gravel SS 16 S-2 3 9 13 16 Auger to 4ft, easy augering. Brown gravelly fine-medium SAND, some silt, trace fine 4 ENTERPRISE S-3 at 4ft gravel 11 S-3 SS (dry) 23 5 13 16 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-medium SAND, some silt, trace f-m gravel 20 (dry) 24 SS S-4 40 31 8 Auger to 8ft, moderate Brown gravelly fine-coarse SAND, some silt 22 augering, light rig chatter (dry) 29 S-5 SS S-5 at 8ft 9 24 64 41 S-6 at 10ft Brown fine SAND, some silt, some f-m gravel S-6 SS 7 100/5 100/5 Auger to 15ft, moderate (dry) augering, light chatter 11 12 (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 14 126. 50/1 S-7 at 15ft No Recovery Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with auger 16 cuttings. 17 18 19



A-S-BOR-22 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 SoilTesting, Inc. 6/15/20 6/15/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 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 N/E 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, 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) Scale 142. 10 20 30 40 Started Drilling on 6/15/2020. S-1A at 0ft S-1B ₹ 6" Light brown fine-coarse SAND, some silt, trace organics, SS 9 4 trace roots Ś SS (dry) [TOPSOIL] at 0.5ft 9 Light brown fine to medium SAND, some silt, trace roots φ USE.GPJ 2 SS S-2 at 2ft Light brown fine SAND, some silt (dry) 4 S-2 19 3 Auger to 4ft 5 S-3 at 4ft Light brown fine SAND, some silt SS 4 ENTERPRISE (dry) 3 S-3 17 5 2 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, some silt 2 SS (moist) S-4 16 Auger to 8ft 8 S-5 at 8ft Light brown fine SAND, some silt 3 (moist) SS S-5 22 9 3 10 S-6 at 10ft Light brown fine-medium SAND, some silt 4 <u>SS</u> (moist) 5 S-6 16 5 5 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft 14 S-7 at 15ft SS Light brown fine-medium SAND, some silt 10 (moist) 9 S-7 20 16 9 17 Bottom of Boring Bottom of boring at 6/15/2020 Boring backfilled with auger 18 cuttings 19

A-S-BOR-23 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 137 (NGVD29) **Drilling Company** Date Started Date Finished 6/4/20 6/4/20 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/A N/A N/E 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) 140 30 Automatic Kenneth Idem 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 137. 10 20 30 40 Started Drilling at 6/4/2020 24" Light brown fine SAND, trace silt 3 S-1 at 0ft (dry) [TOPSOIL] SS 6 S-1 16 6 -135.0 S-2 at 2ft Light brown fine SAND, trace silt SS 5 8 3 6 Auger to 4ft Light brown fine SAND, trace silt 2 ENTERPRISE S-3 at 4ft (moist) S-3 SS 19 5 4 6 6 /LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine SAND, trace silt 4 (moist) SS S-4 24 5 129.0 8 Auger to 8ft Light brown fine SAND, some silt S-5 at 8ft (moist) SS S-5 19 9 5 S-6 at 10ft Light brown fine SAND, some silt 5 (moist) SS 5 S-6 22 6 12 Auger to 15ft 13 14 S-7 at 15ft SS Light brown fine SAND, some silt 6 (moist) 8 S-7 16 9 9 Bottom of boring at 6/4/2020 Bottom of Boring Boring backfilled with auger cuttings. 18 19



A-S-BOR-24 Log of Boring Sheet of 1 Project 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** 6/3/20 6/3/20 **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/E N/A N/A N/A Drop (in) N/A Casing Hammer N/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 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 133 10 20 30 40 Started Drilling at 6/3/2020 Light brown fine SAND, trace silt 2 (dry) S-1 at 0ft SS 2 S-1 18 3 USE.GPJ Light brown fine SAND, trace silt S-2 at 2ft SS 5 15 3 Augers drill to 4 ft 3 S-3 at 4ft Light brown fine SAND, trace silt SS 2 ENTERPRISE (dry) 3 S-3 19 5 4 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine SAND, trace silt 5 (dry) SS S-4 8 Auger drill to 8 ft 5 8 S-5 at 8ft Light brown fine SAND, some silt (dry) SS S-5 9 2 6 7 S-6 at 10ft Light brown fine SAND, some silt 11 (moist) SS 9 S-6 18 11 12 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger drill to 15 ft, heavy rig chatter 14 S-7 at 15ft SS Light brown fine-coarse SAND, some fine gravel, some silt 8 S-7 16 7 17 Bottom of boring at 6/3/2020 Bottom of Boring Boring backfilled with soil cuttings. 18 19

Log of Boring A-S-BOR-25 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 142.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/16/20 6/16/20 **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 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, 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) 142. Started Drilling at 6/16/2020 4" Dark brown fine-medium SAND, trace silt, trace fine SS 142. 3 S-1 at 0ft gravel, trace roots 3 S-2 at 0.5ft (moist) [TOPSOIL] 4 Light brown fine SAND, some silt GPJ S-3 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel 5 5 6 3 S-4 at 3ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 Auger to 4ft 5 S-5 at 4ft Light brown fine-coarse SAND, trace silt 4 ENTERPRISE (dry) 7 S-3 SS 12 5 8 8 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-6 at 6ft SS Light brown fine-medium SAND, trace silt 136. (moist) S-7 at 6.5ft Light brown silty fine SAND 7 8 8 (moist) Auger to 8ft 8 S-8 at 8ft Light brown silty fine SAND, some SILT lenses 6 (moist) SS S-5 22 9 6 8 S-9 at 10ft Light brown silty fine SAND, some SILT lenses 8 (moist) SS 8 S-6 22 6 8 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, easy drilling 14 S-10 at 15ft SS Light brown silty fine SAND, some SILT lenses 9 9 S-7 17 8 17 Bottom of boring at Bottom of Boring 6/16/2020 Boring backfilled with auger 18 cuttings. 19



Log of Boring A-S-BOR-26 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 152 (NGVD29) 59 Steele Road, Hudson NH Date Started **Drilling Company** Date Finished Seaboard Drilling, Inc 6/3/20 6/3/20 **Drilling Equipment** Completion Depth Rock Depth Diedrich D50 16.5 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 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. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) 152. 10 20 30 40 Started Drilling at 6/3/2020 12" Dark brown fine-medium SAND, some silt, some roots 2 S-1 at 0ft (moist) [TOPSOIL] 2 17 Light brown fine-medium SAND, trace silt, trace f-c gravel, 2 S-2 at 2ft Light brown fine-medium SAND, trace silt 2 (moist) SS 2 4 3 Auger to 4ft S-3 at 4ft Light brown fine-medium SAND, trace silt 3 ENTERPRISE (moist) 3 S-3 SS 10 5 5 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 4 (moist) SS S-4 20 6 Auger to 8ft 8 S-5 at 8ft Light brown fine-medium SAND, trace silt (moist) SS 18 9 Auger to 10ft 7 S-6 at 10ft Light brown fine-medium SAND, trace silt 5 SS (moist) 5 S-6 2 6 7 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 Auger to 15ft, moderate drilling at 13ft S-7 at 15ft SS Light brown to brown fine-coarse SAND, some f-c gravel, 15 trace silt 16 S-7 6 (moist) 16 32 -135.3 Bottom of boring at 6/3/2020 17 Boring backfilled with auger Bottom of Boring cuttings. 18 19



A-S-BOR-27 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 133.5 (NGVD29) Date Started **Drilling Company** Date Finished SoilTesting, Inc. 6/16/20 6/16/20 **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 10 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 Drop (in) 30 Sampler Hammer Weight (lbs) 140 Safety Taylor Sisti, 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) Scale 133 10 20 30 40 ₹ Started Drilling on 6/16/2020 6" Light brown fine-coarse SAND, some silt, trace organics, SS 9 3 133.0 S-1A at 0ft Ś SS (moist) [TOPSOIL] S-1B at 0.5ft <del>1</del>B 3 Light brown fine-medium SAND, some silt, trace roots ς 3 USE.GPJ 2 SS S-2 at 2ft Light brown fine-medium SAND, some silt 3 S-2 8 3 3 Auger to 4ft 4 S-3 at 4ft Light brown fine-medium SAND, some silt SS 4 ENTERPRISE (dry) S-3 16 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft. Auger to 8ft. Light brown fine-medium SAND, some silt SS (dry) S-4 19 8 S-5 at 8ft Light brown fine to medium SAND, trace silt SS 5 (dry) S-5 19 9 8 10 S-6 at 10ft SS Light brown fine SAND, some silt (wet) 9 S-6 15 11 8 9 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 Auger to 15ft, easy drilling 14 15 S-7 at 15ft SS Light brown fine SAND, some silt 6 (wet) S-7 17 16 13 7 17 Bottom of Boring Bottom of boring on 6/16/2020 Boring backfilled with aguer 18 cuttings 19



A-S-BOR-28 Log of Boring Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 121.5 (NGVD29) Date Started **Drilling Company** Date Finished **Atlantic Testing Laboraties** 6/9/20 6/9/20 **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.) N/A N/A 15 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 (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 121. 10 20 30 40 Started Drilling at 6/9/2020 Brown fine SAND, trace silt 2 S-1 at 0ft (dry) SS 3 <u>۲</u> 12 3 3 USE.GPJ S-2 at 2ft Brown fine SAND, trace silt SS 2 (dry) 2 4 3 Auger to 4 ft S-3 at 4ft Brown fine SAND, trace silt SS 2 ENTERPRISE (dry) 2 S-3 15 5 2 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-medium SAND, trace silt (moist) SS S-4 18 Auger to 8 ft 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel (moist) SS S-5 18 9 6 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel (moist) <u>ss</u> S-6 24 5 6 12 Auger to 15 ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 106. S-7 at 15ft SS Brown silty SAND (wet) 2 S-7 17 Brown silty SAND S-8 at 17ft (wet) SS 20 18 6 6 102. 19 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with auger cuttinas



Log of Boring A-S-BOR-29 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum Elev. + 145 (NGVD29) 59 Steele Road, Hudson NH Drilling Company Date Started Date Finished Atlantic Testing Laboraties 6/3/20 6/3/20 **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) 24 HR. Casing Depth (ft) First Completion Water Level (ft.) 4in N/A 14 Casing HammeN/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 Automatic 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) 145. 10 20 30 40 Started Drilling at 6/3/2020. Light brown fine-medium SAND, trace silt, trace fine gravel, 144. S-1 at 0ft some roots (dry)[TOPSOIL] SS 12 6 USE.GPJ SS S-2 at 2ft Light brown fine-medium SAND, some fine gravel, trace silt 6 S-2 13 BORINGS 3 8 Drive casing to 4.0ft. Brown fine-coarse SAND, some fine gravel, trace silt, trace 3 ENTERPRISE S-3 at 4ft organics 6 S-3 SS (wet) 3 5 11 12 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine-coarse SAND, some fine gravel, trace silt, trace 10 roots SS 10 S-4 (wet) 13 11 8 Drive casing to 8.0ft. Brown fine-coarse SAND, some fine gravel (wet) S-5 at 8ft 5 S-5 SS 9 ω 6 6 S-6 at 10ft Brown fine-coarse SAND, some fine gravel, trace silt (wet) 6 SS S-6 ω 8 11 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 S-7 at 14ft. Brown fine-coarse SAND, some fine gravel, trace silt 11 Drive casing to 14.0ft (wet) 12 SS S-7 ω Trace slightly weathered 16 13 129. Bottom of boring at 6/3/2020 Boring backfilled with soil Bottom of Boring cuttings. 17 18 19



Log of Boring A-S-BOR-30 Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 155.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/16/20 6/16/20 SoilTesting, Inc. **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 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, Justin Hall Sample Data 1/2020 9:57:01 AM 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 on 6/16/2020 10" Light brown fine-coarse SAND, trace silt, trace fine S-1A 2 12 S-1A at 0ft 154.7 5 (moist) S-1B at 1ft Light brown fine-medium SAND, trace silt, trace fine gravel В ý 6 USE.GPJ 2 SS S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel S-2 16 BORINGS 3 13 Auger to 4ft S-3 at 4ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 2 ENTERPRISE (dry) S-3 10 5 5 8 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft SS Light brown fine-medium SAND, trace silt 8 (dry) S-4 4 9 Auger to 8ft, easy drilling 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt 8 (dry) 13 SS S-5 17 9 15 14 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 15 (dry) SS 10 S-6 8 12 15 12 \\LANGAN.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 silt lenses throughout 8 (moist) S-7 17 16 12 18 17 Bottom of Boring Bottom of boring on 6/16/2020 Boring backfilled with auger 18 cuttings 19

A-S-BOR-31 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 122 (NGVD29) **Drilling Company** Date Started Date Finished Atlantic Testing Laboraties 6/9/20 6/9/20 **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.) 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) 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 122. 10 20 30 40 Started Drilling at 6/9/2020 Light brown fine SAND, trace silt (dry) S-1 at 0ft SS 2 <u>۲</u> 17 3 3 USE.GPJ 2 S-2 at 2ft SS Light brown fine SAND, trace silt 2 4 3 Auger to 4 ft 118. S-3 at 4ft Light brown SILT, trace fine sand SS ENTERPRISE (dry) 2 S-3 48 5 2 3 -116.0 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt, trace fine gravel 4 SS (dry) S-4 20 Auger to 8 ft 15 16 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt (dry) SS S-5 12 9 6 6 S-6 at 10ft Light brown fine-coarse SAND, trace silt, trace fine gravel 6 SS (dry) 6 S-6 18 8 7 12 Auger to 15 ft \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 107. S-7 at 15ft SS Light brown silty fine SAND (wet) 5 8 S-7 16 17 Light brown silty fine SAND S-8 at 17ft 6 (wet) SS 24 18 6 6 103.0 19 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with auger cuttings.



A-S-BOR-33 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 157 (NGVD29) Drilling Company Date Finished Date Started **Atlantic Testing Laboraties** 6/9/20 6/9/20 **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.) N/E V 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 157. 10 20 30 40 Started Drilling on 6/9/2020 Light brown fine SAND, trace silt 2 (dry) S-1 at 0ft SS 2 <u>۲</u> 17 3 USE.GPJ 2 SS S-2 at 2ft Light brown fine SAND, trace silt 3 13 BORINGS 3 Auger to 4 ft S-3 at 4ft Light brown fine SAND, trace silt SS 3 ENTERPRISE (dry) 3 S-3 12 5 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft SS Light brown fine-medium SAND, trace silt (dry) S-4 4 Auger to 8 ft 8 S-5 at 8ft Light brown fine SAND, trace silt SS 3 (dry) S-5 4 9 7 10 S-6 at 10ft Light brown fine SAND, trace silt SS (dry) S-6 16 8 10 12 Auger to 15 ft "ILANGAN.COMIDATA\BOS\DATA1\15101010101\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine SAND, trace silt 3 (dry) 3 16 S-7 17 Light brown fine SAND, trace silt S-8 at 17ft 4 (dry) SS 17 18 5 5 138.0 19 Bottom of boring on 6/9/2020 Bottom of Boring Boring backfilled with auger cuttinas

Log of Boring A-S-BOR-33A Sheet of 1 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 122 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/9/20 6/9/20 **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/A N/A 11.5 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 /22/2020 9:57:09 AM MATERIAL SYMBOL Remarks Depth Penetr. resist BL/6in Recov. (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 122. 10 20 30 40 0 Started Drilling at 6/9/2020 4" Light brown fine SAND, trace silt, trace roots 121. 3 S-1 at 0ft (dry) [TOPSOIL] SS 2 16 2 SS S-2 at 2ft Light brown fine SAND, trace silt 3 2 8 BORINGS 3 3 3 Auger to 4ft, easy augering Light brown fine SAND, trace silt 3 ENTERPRISE S-3 at 4ft (dry) 2 S-3 SS 23 5 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Light brown fine-medium SAND, trace silt 6 (dry) 6 SS S-4 20 11 13 8 Auger to 8ft, easy augering Light brown fine-medium SAND, trace silt 6 S-5 at 8ft (moist) 8 SS S-5 24 9 9 7 10 S-6 at 10ft Light brown fine SAND, trace silt 9 (wet) SS 8 S-6 16 9  $\nabla$ 10 12 Auger to 15ft, easy augering \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine SAND, trace silt 2 (wet) 4 S-7 20 16 105.0 17 Bottom of boring at 6/9/2020 Bottom of Boring Boring backfilled with auger cuttings 18 19

A-S-BOR-34 Log of Boring Sheet of 1 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 6/18/20 6/18/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth **DIEDRICH D-50** 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 Hammer N/A Drilling Foreman Weight (lbs) N/A Michael Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Kenneth Idem 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 139. 10 20 30 40 0 Started Drilling on 6/18/2020 2" Asphalt 139. Asphalt from 0ft to 0.2ft Light brown fine SAND, some silt SS 5 S-1 at 0.5ft (dry) S-1 9 10 2 S-2 at 2ft SS Light brown fine-coarse SAND, trace silt 12 (dry) 14 S-2 13 3 12 Auger to 4ft, Easy Augering 11 4 S-3 at 4ft Light brown fine-coarse SAND, trace silt 8 ENTERPRISE (moist) 11 S-3 SS 13 5 13 13 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine-coarse SAND, trace silt 15 (moist) SS 15 S-4 16 15 Auger to 8ft, Easy Augering 17 8 S-5 at 8ft Light brown fine-coarse SAND, trace silt 11 (moist) 12 SS S-5 16 9 9 14 10 S-6 at 10ft Light brown fine-medium SAND, trace silt 14 (moist) 14 S-6 4 16 Auger to 15ft, Easy Augering 15 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine-medium SAND, trace silt 11 (moist) 15 S-7 16 16 18 17 Bottom of Boring Bottom of boring at 6/18/2020 Boring backfilled with auger 18 cuttings 19

A-S-BOR-35 Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 122 (NGVD29) **Drilling Company** Date Started Date Finished SoilTesting, Inc. 6/9/20 6/9/20 **Drilling Equipment** Completion Depth Rock Depth CME Truck-Mounted Drill Rig 19 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 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 122. 10 20 30 40 0 Started Drilling at 6/9/2020 3" Brown fine SAND, trace wood, trace silt 121. 3 (moist) [TOPSOIL] S-1 at 0ft SS 4 16 3 2 USE.GPJ SS S-2 at 2ft Brown fine SAND, trace silt 3 (moist) 3 BORINGS 3 3 3 Auger to 4ft, easy augering Brown fine SAND, trace silt SS 2 ENTERPRISE S-3 at 4ft (moist) 2 S-3 ω 5 3 3 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown fine SAND, trace silt 3 (moist) SS 3 S-4 17 3 8 Auger to 8ft, easy augering Brown fine SAND, trace silt S-5 at 8ft (moist) SS 19 9 3 S-6 at 10ft Brown fine-medium SAND, trace silt 5 (moist) SS 6 S-6 4 6 8 12 Auger to 15ft, easy augering (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) 13 S-7 at 15ft SS Brown medium-coarse SAND, trace silt, trace f-m gravel 6 (moist) 9 15 S-7 17 Brown medium-coarse SAND, trace silt Auger to 20ft, easy augering 4 S-8 at 17ft (moist) SS S-8 16 18 9 Bottom of boring at 6/9/2020 Boring backfilled with auger 10 103. 19 Bottom of Boring cuttings.

A-S-BOR-36 Log of Boring Sheet of 1 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 6/18/20 6/18/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth **DIEDRICH D-50** 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.)  $\mathbf{V}$ N/A N/A N/E N/A Drop (in) N/A Casing Hammer N/A Drilling Foreman Weight (lbs) N/A Michael Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Kenneth Idem Sample Data MATERIAL SYMBOL Remarks Depth Recov. (in)
Penetr. resist (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 139. 10 20 30 40 0 Started Drilling on 6/18/2020 138.8 2" asphalt Asphalt from Oft to 0.2ft Light brown fine SAND, trace silt SS S-1 at 0.5ft (dry) S-1 3 12 24 12 2 SS S-2 at 2ft Light brown fine SAND, trace silt 17 19 S-2 3 20 Auger to 4ft, Easy Augering 22 4 SS , S-3 at 4ft Light brown fine SAND, trace silt 14 ENTERPRISE (dry) S-3 15 17 5 14 17 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Light brown fine to medium SAND, trace silt 21 (dry) 17 SS S-4 22 15 Auger to 8ft, Easy Augering 20 8 SS S-5 at 8ft Light brown fine to medium SAND, trace silt 14 (dry) 18 S-5 17 9 36 18 20 10 Light brown fine SAND, trace silt S-6 at 10ft 20 (dry) <u>ss</u> 19 S-6 24 37 18 Auger to 15ft, Easy Augering 21 12 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 13 14 S-7 at 15ft SS Light brown fine SAND, some silt 9 (dry) 10 S-7 17 16 18 17 Bottom of Boring Bottom of boring on 6/18/2020 Boring backfilled with auger 18 cuttings 19

A-S-BOR-36A Log of Boring Sheet of 1 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 140.5 (NGVD29) Date Started **Drilling Company** Date Finished 6/18/20 6/18/20 SoilTesting, Inc. **Drilling Equipment** Completion Depth Rock Depth **DIEDRICH D-50** 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 Michael Kennedy Sampler 2-inch-diameter split spoon Field Engineer Sampler Hammer Weight (lbs) Drop (in) 140 30 Safety Kenneth Idem Sample Data '22/2020 9:57:19 AM MATERIAL SYMBOL Remarks Depth Recov. (in) Penetr. resist BL/6in (Drilling Fluid, Depth of Casing, Fluid Loss, Drilling Resistance, etc.) Sample Description (ft) Scale 140. 10 20 30 40 0 Started Drilling on 140. 2" Asphalt 6/18/2020. Asphalt from 0ft Brown fine-medium SAND, some silt (dry) SS to 0.2ft S-1 S-1 at 0.5ft 8 S-2 at 2ft SS Brown fine SAND, some silt (dry) 6 3 S-2 3 3 Auger to 4ft, Easy Augering 6 136. S-3 at 4ft Brown silty fine SAND (dry) SS 6 ENTERPRISE 7 S-3 15 5 11 6 DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 S-4 at 6ft Brown silty fine SAND (dry) SS 11 S-4 15 7 12 Auger to 8ft, Easy Augering 15 132.5 8 S-5 at 8ft Brown fine-coarse SAND, some silt, trace f-m gravel (dry) 3 7 SS S-5 15 9 26 19 20 S-6 at 10ft Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 27 SS 26 S-6 12 27 33 12 Auger to 15ft, Moderate (LANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA) Augering, Medium Chattering
Inferred Cobble from 13ft to 13 14.5ft 14 S-7 at 15ft SS Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 27 21 S-7 16 17 17 Bottom of Boring Bottom of boring at 6/18/2020 Boring backfilled with auger 18 cuttings 19



Log of Boring A-S-BOR-37 Sheet of 2 Proiect Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 155.5 (NGVD29) Date Started **Drilling Company** Date Finished Atlantic Testing Laboraties 6/18/20 6/18/20 **Drilling Equipment** Completion Depth Rock Depth Geoprobe 7822 DT 41 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. Completion Water Level (ft.) 15.2 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) 155. 10 20 30 40 Started Drilling on 6/18/2020 3" Dark brown fine SAND, trace silt, trace fine gravel, trace 155. 2 S-1 at 0ft SS 2 (dry) [TOPSOIL] 15 Light brown fine-medium SAND, trace silt, trace fine gravel 5 USE.GPJ 2 S-2 at 2ft Light brown fine-coarse SAND, trace silt, trace fine gravel SS 19 BORINGS 3 9 S-3 at 4ft Brown fine-coarse SAND, some fine gravel, trace silt 14 ENTERPRISE (dry) 6 S-3 SS ω 5 Drive casing to 4ft 4 3 6 DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 S-4 at 6ft Brown fine-coarse SAND, some fine gravel, trace silt 3 (dry) SS 3 S-4 10 8 S-5 at 8ft Brown fine-coarse SAND, trace silt, trace fine gravel (dry) 34 S-5 SS 12 9 Drive casing to 8ft 12 9 S-6 at 10ft Brown fine-coarse SAND, trace silt, trace fine gravel 3 (dry) SS S-6 12 6 8 12 Drive casing to 14ft -ANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA/ 13 S-7 at 14ft Brown fine-coarse SAND, trace silt, trace fine gravel 2 (wet) SS S-7 13 15 10 11 16 17 18 S-8 at 19ft Brown fine-coarse SAND, trace silt, trace fine gravel 4 လူ 12 (wet)



Log of Boring A-S-BOR-37 Sheet 2 of 2 Project Project No. **Hudson Logistics Center** 151010101 Location Elevation and Datum 59 Steele Road, Hudson NH Elev. + 155.5 (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 40 135. 20 SS S-8 12 10 21 22 23 24 S-9 at 24ft SS Brown fine-coarse SAND, trace silt Light brown fine SAND, some silt 25 4 8 (wet) 10 26 BORINGS_USE.GPJ 27 28 29 S-10 at 29ft Light brown fine SAND, some silt VILANGAN.COMIDATA\BOS\DATA1V51010101VPROJECT DATAL_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ (wet) 10 30 12 15 31 32 33 34 S-11 at 34ft Light brown fine SAND, some silt 6 35 9 11 36 37 38 39 S-12 at 39ft Brown fine-medium SAND, some silt 11 (wet) 30 34 Bottom of boring at Bottom of Boring 6/18/2020 Boring backfilled with soil 42 cuttings 43

## APPENDIX D TEST PIT LOGS

**LOG OF TEST PIT A-B-TP-01** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 11:23:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **REMARKS DESCRIPTION** Scale 0 +131.0 6" Brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No redox. (dry)[TOPSOIL] +130.5 Light brown fine SAND, trace silt (dry) 1 Roots to 1ft 2 3 4 5 Brown fine-coarse SAND, trace silt, trace fine gravel (dry) 6 Light brown fine SAND, some silt (dry) 7 Brown fine-coarse SAND, trace silt, trace fine gravel (moist) 8 Light brown fine SAND, some silt ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA (moist) 9 +122.0 Bottom of Test Pit at 9ft Bottom of Test Pit at 9ft, no groundwater encountered. Test pit backfilled with excavated

10

soils in compacted lifts to grade. Surface restored with grass removed prior to excavation.

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LOG OF TEST PIT A-B-TP-02 Sheet 1

of 1

PROJECT NAME **Hudson Logistics Center** 1510101₀₁ 6/23/2020 1:42:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 133.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +133.5 12" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] 1 Brown fine-medium SAND, trace silt (dry) 2 Light brown fine-medium SAND, some f-c gravel, trace silt (dry) 3 4 Roots to 4.5ft 5 6 Brown fine-coarse SAND, some f-c gravel, trace silt (dry) 7 +125.7 Bottom of Test Pit at 7.8ft Bottom of Test Pit at 7.8ft, no groundwater 8 encountered. Test pit backfilled with 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\

**LOG OF TEST PIT A-B-TP-03** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 12:46:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.5 8" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt 1 (dry) Roots to 1.5ft 2 3 4 5 Brown fine-coarse SAND, trace silt, trace fine gravel (dry) +130.0 Light brown fine-medium SAND, trace silt (dry) 6 7 8 +127.0 Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated 9 soils in compacted lifts to grade. Surface

10

restored with grass removed prior to excavation.

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**LOG OF TEST PIT A-B-TP-04** Sheet of 1 1 PROJECT NAME DATE **Hudson Logistics Center** 151010101 6/23/2020 9:46:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 144 (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 Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +144.0 8" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls mostly maintained. No redox. (dry)[TOPSOIL] +143.3 1 Light brown fine-coarse SAND, some fine gravel, trace silt Roots to 1ft (dry) 2 3 4 5 || WILANGAN.COM/DATA\BOS\DATA1\1510101\PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 +138.5 Brown fine-medium SAND, trace silt (dry) 6 7 8 +135.5 Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated 9 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 10

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TEST PITS.GPJ

ENTERPRISE

**LOG OF TEST PIT A-B-TP-05** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/25/2020 10:38:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Brown fine-medium SAND, some silt 1 (dry) 2 Light brown fine SAND, trace silt (dry) Roots to 2.5ft 3 4 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 5 6 7 8 +127.5 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

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**LOG OF TEST PIT A-B-TP-06** Sheet of 1 PROJECT NAME DATE **Hudson Logistics Center** 151010101 6/24/2020 8:22:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 130.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +130.5 6" Dark brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No redox. (dry)[TOPSOIL] +130.0 Light brown fine-medium SAND, trace silt (dry) 1 Roots to 1ft 2 Brown fine-coarse SAND, trace silt (dry) 3 4 5 //LANGAN.COM/DATA/BOS/DATA1/15101011/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\ 6 Grayish brown fine-medium SAND, some silt (moist) 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 A-B-TP-07** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 7:23:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +131.5 8" Light brown fine-medium SAND, some silt, some roots Vertical walls maintained. No redox. (moist)[TOPSOIL] Light brown SILT, some fine sand, trace roots 1 (moist) 2 3 Light brown silty fine SAND (moist) 4 +126.7 Light brown fine-coarse SAND, some f-c gravel, trace silt 5 (moist) 6 7 123.7 Bottom of Test Pit at 7.8ft Bottom of Test Pit at 7.8ft, no groundwater 8 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 A-B-TP-08** 

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 1:44:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 139.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion 6.8 ft Polster Industries N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +139.5 7" Light brown fine-medium SAND, some silt, some roots Vertical walls maintained. No redox. (dry)[TOPSOIL] +138.9 Light brown fine-coarse SAND, some silt, trace roots (moist) 1 Light brown fine-coarse SAND, some f-c gravel, trace silt 2 (moist) 3 4 Light brown fine-medium SAND, trace silt, trace fine gravel (moist) 5 6 +132.7 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

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**LOG OF TEST PIT A-B-TP-09** Sheet of 1 PROJECT NAME DATE 1510101₀₁ **Hudson Logistics Center** 6/23/2020 9:18:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 144 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +144.0 8" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls mostly maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, some fine gravel, trace silt 1 (dry) Roots to 1ft 2 Light brown fine-coarse SAND, some fine gravel, trace silt (moist) 3 4 ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE. 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

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**LOG OF TEST PIT A-B-TP-10** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 9:07:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135.5 (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 Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.5 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace roots 1 (dry)[FILL] 2 Brown fine-medium SAND, some silt Roots to 2.5ft (dry) 3 4 Light brown fine SAND, trace silt (dry) ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE. 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 grass removed prior to excavation. 9 10

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TEST

**LOG OF TEST PIT A-B-TP-11** 

Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 8:43:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +131.5 5-6" Brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Orangish brown silty fine SAND, trace roots (moist) 1 Light brown silty fine SAND (moist) 2 3 Light brown fine-medium SAND, some silt, trace f-c gravel, trace cobbles up to 6 inches (moist) 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 grass removed prior to excavation. 9 10 LANGAN

PITS.GPJ

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**LOG OF TEST PIT A-B-TP-12** Sheet of 1 PROJECT NAME DATE **Hudson Logistics Center** 1510101₀₁ 6/24/2020 7:31:00 AM 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 Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.0 12" Dark brown fine-medium SAND, trace silt, trace roots Vertical walls mostly maintained. No redox. (dry)[TOPSOIL] 1 Light brown fine-medium SAND, some silt Roots to 1ft (dry) 2 3 4 Brown fine-coarse SAND, trace silt (dry) 5 6 7 Light brown fine SAND, trace silt

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restored with grass removed prior to excavation.

8

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Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated

soils in compacted lifts to grade. Surface

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+126.5

(moist)

Bottom of Test Pit at 8.5ft

LOG OF TEST PIT A-B-TP-13 Sheet 1 of

				PROJECT NUMBER 151010101					DATE		
Hudson Logistics Center  LOCATION E				ON	1	5101	0101	6/23/2020 2:31:00 PM			
59 Steele Road, Hudson, NH								Elev	+ 142.5 (NGVE	)29)	
EXCAVATION CONTRACTOR Polster Industries					7 f	t	WATER LEV	VEL - First N/E  VEL - First	WATER LEVEL - N/E	Completion	
EQUIPMENT FORE				N NA			•	LANGAN PERSONNEL			
CAT 305E				Wanderley Doo				carno Olivia Chasse			
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale			REMARKS				
<u>x                                    </u>	+142.5	8" Dark brown fine-medium SAND, some roots, trace silt (dry)[TOPSOIL]	-	— 0 — - - -			Vertical sidewalls maintained. No redox.				
		Light brown fine-medium SAND, trace silt (dry)	- - - - - - - -	1 - - - - 2 - -	-		Roots to 1	1ft			
	+139.5	Brown fine-coarse SAND, trace silt, trace fine gravel (dry)		3							
<u> </u>	+135.5	Bottom of Test Pit at 7ft	- - - - - - - - - - - - - - - - - - -	7			encounter soils in co	red. Test pit b ompacted lifts	t, no groundwate ackfilled with exc to grade. Surface noved prior to exc	avated e	
	\ <b>\</b> \	GAN		— 11 —	•						

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**LOG OF TEST PIT A-B-TP-14** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/23/2020 8:40:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 145 (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 Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/ 1/1/ 145.0 6" Dark brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No redox. (dry)[TOPSOIL] +144.5 1 Roots to 1ft 2 Light brown fine-coarse SAND, some f-c gravel, trace silt (dry) 3 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

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**LOG OF TEST PIT A-B-TP-15** Sheet of 1 1 PROJECT NAME DATE 1510101₀₁ **Hudson Logistics Center** 6/24/2020 9:49:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 132 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +131.3 1 Roots to 1ft. 2 Light brown fine-medium SAND, trace silt, trace fine gravel (dry) 3 4 5 6 7 8 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 9 +123.0 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

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TEST PITS.GPJ

DISCIPLINE/GEOTECHNICAL\GINTLOGS\151010101 ENTERPRISE

**LOG OF TEST PIT A-B-TP-16** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 9:26:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.0 6" Brown fine-medium SAND, trace silt, trace roots Vertical walls maintained. No redox. (dry)[TOPSOIL] +134.5 1 Roots to 1ft 2 Light brown fine SAND, some silt (dry) 3 4 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 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 grass removed prior to excavation. 9 10

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

PROJECT NAME				PROJECT NUMBER DATE								
Hudson Logistics Center LOCATION			ELEVAT	ION		15	1010101					
59 Steele Road, Hudson, NH							124.4.75	Elev. + 136.5 (NGVD29)  WATER LEVEL - First WATER LEVEL - Completion				
Pol	ster In	dustries	DEPTH		6.7	6.7 ft			I/E $\nabla$	WATER	N/E	ompletion
EQUIPME	NT (Auchi	TB260	OREMA	AN			t Polster		LANGAN PERS	SONNEL	/ia Chas	
ıar	Cucili	15200			SA	MPL				Oliv	ria Orias	36
Symbol	ELEV (feet)	DESCRIPTION		Depth Scale					REM	ARKS		
	(ICCL)				Number	1	Туре					
76. 76 76. 76	+136.5	8" Dark brown fine-medium SAND, some roots, trace silt (dry)[TOPSOIL]  Light brown fine-medium SAND, some silt, some roots (dry)  Brown fine-coarse SAND, trace silt, trace fine gravel (dry)		2	5 <u>N</u>		Vertic	cal wa	ils mostly ma	aintained.	No redo	x.
	+129.8			5								
	+129.8	Bottom of Test Pit at 6.7ft		8 9 10 11 —			encou soils	untere in con	Fest Pit at 6.  d. Test pit by higher the pacted lifts th grass rem	ackfilled v to grade.	vith exca Surface	vated
IA	N	GAN		- 11 -								

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LOG OF TEST PIT A-B-TP-18 Sheet 1 of 1

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PROJECT NAME Hudson Logistics Center				CT NUMBER	DATE 6/23/2020 2:26:00 PM							
LOCATION				ION		5101	0101					
59 EXCAVAT	Steele	Road, Hudson, NH	DEPTH				IMATED LE	Elev. + 142 (NGVD29)  VEL - First WATER LEVEL - Completion				
Pol	ster In	dustries	DEPTH		7 f	t	WATER LE	N/E \( \sqrt{N/E} \)				
EQUIPME	NT	TB260	FOREM	AN			olster	LANGAN PERSONNEL Olivia Chasse				
ıaı	Ceuciii	1B200			SAN		OISTEI	Olivia Criasse				
Symbol	ELEV (feet)	DESCRIPTION		Depth				REMARKS				
Oyiii.Doi	(feet)	BEGON! HON		Scale	Number	Туре		KEMAKKO				
7,14. 1/1/2.	+142.0	8" Dark brown fine-medium SAND, some roots, trace silt		— 0 —			Vertical w	valls mostly maintained. No redox.				
<u>, ,,, ,, ,,</u>		(dry)[TOPSOIL]			]			,				
<u> 16. 16</u>	. 4 4 4 0				1							
	+141.3	Light brown fine-medium SAND, trace silt			-							
		(dry)	_	- 1 -	1		Roots to	1f <del>t</del>				
					1		110013 10					
					-							
				- 2 -	-							
			_		1							
					1							
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					1							
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					1							
				- 4 -								
					-							
					1							
					1							
	+127.0			 - 5 -								
	+137.0	Light brown fine-coarse SAND, trace silt, trace fine gravel										
		(dry)			-							
			-		1							
				- 6 -	1							
				- 0 -	]							
					1							
					-							
				. <u>.</u>	1							
	+135.0	Bottom of Test Pit at 7ft		- 7 -			Bottom of	f Test Pit at 7ft, no groundwater				
					]		encounte	red. Test pit backfilled with excavated				
					-			ompacted lifts to grade. Surface				
			-		1		restored v	with grass removed prior to excavation.				
				- 8 -	1							
					-							
				- 9 -	1							
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			-	- 10 -	-							
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**LOG OF TEST PIT A-B-TP-19** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 8:15:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 146 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 6.7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +146.0 18" Dark brown fine-medium SAND, some silt, some roots, trace Vertical walls maintained. No redox. gravel (dry)[TOPSOIL]

1 Light brown fine-medium SAND, trace silt, trace f-c gravel (dry) 2 7/13/2020 1:51:36 PM 3 Brown fine-coarse SAND, trace silt (dry) PITS.GPJ 4 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE Light brown fine-medium SAND, trace silt (dry) 5 Roots to 5.5ft 6 +139.3 Bottom of Test Pit at 6.7ft, no groundwater Bottom of Test Pit at 6.7ft 7 encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10

**LOG OF TEST PIT A-R-TP-02** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/25/2020 8:04:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 129.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +129.5 8" Dark brown fine-medium SAND, trace silt, trace roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] 128.8 Brown fine-medium SAND, trace silt 1 (dry) Roots to 1ft +128.0 2 3 Grayish brown fine-medium SAND, some silt (moist) 4 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 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 grass removed prior to excavation. 9 10

**LOG OF TEST PIT A-R-TP-03** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/4/2020 10:57:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 146.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Symbol ELEV (feet) Depth **DESCRIPTION REMARKS** Scale 0 +146.5 4" Dark brown fine-medium SAND, some roots, trace silt, trace fine Vertical sidewalls mostly maintained. No redox. (dry)[TOPSOIL] 1 2 Light brown fine-medium SAND, some f-c gravel, trace silt, trace cobbles (dry) 3 4 5 Roots to 5.5ft 6 7 8 +138.5

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restored with grass removed prior to excavation.

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Bottom of Test Pit at 8ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface

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Bottom of Test Pit at 8ft

**LOG OF TEST PIT A-R-TP-04** Sheet of 1 1 PROJECT NAME DATE 1510101₀₁ **Hudson Logistics Center** 6/8/2020 9:55:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 140 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +140.0 4" Dark brown fine-medium SAND, some roots, trace silt, trace fine Vertical sidewalls mostly maintained. No redox. (dry)[TOPSOIL] 1 2 Light brown fine-medium SAND, some f-c gravel, trace silt (dry) 3 4 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 5 6 7 8 +132.0 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

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**LOG OF TEST PIT A-R-TP-06** Sheet of 1 PROJECT NAME DATE **Hudson Logistics Center** 151010101 6/7/2020 LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 6.5 ft 6 ft 6 ft EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Lee Chrisman SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +131.0 10" Dark brown fine-medium SAND, some roots, some fine gravel, Vertical sidewalls mostly maintained. No redox. (moist) [TOPSOIL] Orangish brown fine-medium SAND, some silt, trace roots 1 Roots to 1.5ft 2 Light brown fine-medium SAND, some silt, trace fine gravel (moist) 3 4 5 6 Light brown fine-medium SAND, some silt, trace fine gravel Groundwater encountered at 6ft (wet) +124.5 Bottom of Test Pit at 6.5ft Bottom of Test Pit at 6.5ft. 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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**LOG OF TEST PIT A-R-TP-07** Sheet of 1 PROJECT NAME DATE **Hudson Logistics Center** 151010101 5/29/2020 LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131.5 (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** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +131.5 8" Dark brown fine-medium SAND, some roots, some fine gravel, Vertical walls mostly maintained. No redox. (dry) [TOPSOIL] +130.8 Orangish brown f-m SAND, trace fine gravel, trace silt 1 Roots to 1.5ft Light brown fine-medium SAND, some fine gravel, trace silt 2 (dry) 3 4 NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 5 6 7 8 +123.0 Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated 9 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 10

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**LOG OF TEST PIT A-S-TP-01** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/25/2020 10:56:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135.5 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +135.5 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Brown fine-medium SAND, trace silt 1 (dry) 2 Light brown fine SAND, trace silt (dry) 3 Roots to 3.5ft 4 5 \LANGAN.COMIDATA\BOS\DATA1\15101011\PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 6 7 G-1 at 7ft. Infiltration test A-IT-01 at 7ft below GRAB grade, see log for details. 9 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 A-S-TP-02** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/25/2020 11:45:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 133 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +133.0 12" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] 1 Brown fine-medium SAND, trace silt Roots to 1ft (dry) Light brown fine SAND, some silt (moist) 2 3 4 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE 5 G-1 at 5ft. Infiltration test A-IT-02 at 5ft below grade, see log for details. GRAB 9 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

**LOG OF TEST PIT A-S-TP-03** Sheet of 1 1 PROJECT NAME DATE 1510101₀₁ **Hudson Logistics Center** 6/25/2020 8:17:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 138 (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 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +137.3 1 Roots to 1ft 2 Light brown fine-medium SAND, trace silt (dry) 3 4 5 6 7 8 \\LANGAN.COM\DATA\BOS\DATA1\151010101\\PROJECT DATA\ 9 +129.0 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

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**LOG OF TEST PIT A-S-TP-04** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/25/2020 9:23:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 137 (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 Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +137.0 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-coarse SAND, some fine gravel, trace silt 1 (dry) 2 Light brown fine-medium SAND, some f-c gravel, trace silt, trace cobbles (dry) 3 4 Roots to 4ft 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

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**LOG OF TEST PIT A-S-TP-05** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/24/2020 12:21:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 133 (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** Olivia Chasse Wanderley Docarno SAMPLE Symbol ELEV (feet) Depth **DESCRIPTION REMARKS** Scale 0 +133.0 8" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +132.3 Brown fine-medium SAND, trace silt 1 (dry) 2 Light brown fine-coarse SAND, some f-c gravel, trace silt, trace Roots to 2.5ft cobbles 3 (dry) 4 5 \LANGAN.COMIDATA\BOS\DATA1\15101011\PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 6 Moderate excavator resistance at 6ft. Some weathered cobbles encountered. 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with excavated 8 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

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**LOG OF TEST PIT A-S-TP-06** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 1510101₀₁ 6/24/2020 12:10:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 133 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +133.0 6" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Brown fine-medium SAND, trace silt (dry) 1 2 Light brown fine SAND, some silt Roots to 2ft (moist) 3 4 ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE. 5 6 7 8 125.0 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

**LOG OF TEST PIT A-S-TP-07** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 11:48:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 130.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft 7.5 ft 7.5 ft EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Olivia Chasse Pat Polster SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +130.5 8" Dark brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt, trace fine gravel 1 (dry) 2 Grayish brown fine-medium SAND, some silt, trace fine gravel (moist) 3 4 5 +125.0 Brown fine-medium SAND, trace silt (moist) 6 7 Groundwater encountered at 7.5ft. Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft. Test pit backfilled with excavated soils in compacted lifts to grade. 8 Surface restored with grass removed prior to excavation.

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**LOG OF TEST PIT A-S-TP-08** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 11:42:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 132.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +132.5 8" Dark brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown fine-medium SAND, trace silt 1 (dry) 2 Grayish brown fine-medium SAND, some silt, trace fine gravel (moist)[TILL] 3 4 Roots to 4ft 5 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with excavated 8 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 10:55:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 132.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +132.5 6" Dark brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No redox. (dry)[TOPSOIL] +132 0 Light brown fine-medium SAND, trace silt (dry) 1 Roots to 1ft 2 Grayish brown fine-medium SAND, some silt, trace fine gravel G-1 at 2ft. Infiltration test A-IT-09 at 2ft below GRAB (moist) grade, see log for details. 9 3 4 5 6 7 Bottom of Test Pit at 7ft, groundwater Bottom of Test Pit at 7ft encountered at bottom of test pit. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10 LANGAN

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**LOG OF TEST PIT A-S-TP-10** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/4/2020 2:42:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 132 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft 5 ft 5 ft EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +132.0 4" Dark brown fine-medium SAND, some roots, trace silt Vertical walls maintained. No roots. No redox. +131.7 (dry)[TOPSOIL] 1 2 Brown to grayish brown fine-medium SAND, some silt (dry) 3 4 ILANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE 5 Brown to grayish brown fine-medium SAND, some silt Groundwater seepage at 5ft (wet) 6 7 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

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Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/4/2020 1:12:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 132.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7 ft 5 ft 6.5 ft EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Jack Berritt SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +132.5 6" Brown fine-coarse SAND, trace silt, tracce roots Vertical sidewalls maintained. (dry) [TOPSOIL] +132.0 Mottled brown fine SAND, some silt (dry) 1 2 3 Mottled brown fine SAND, trace silt (dry) 5 +127.5 Mottled brown fine SAND, trace silt Slight seepage from wall at 5ft (wet) 6 Heavy groundwater seepage at 6.5 ft 7 Bottom of Test Pit at 7ft Bottom of Test Pit at 7ft. Test pit backfilled with excavated soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 8 9 10 LANGAN

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Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/24/2020 11:13:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 130 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +130.0 12" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] 1 Brown fine-medium SAND, trace silt Roots to 1ft (dry) 2 Light brown fine-medium SAND, some silt, trace fine gravel (moist) 3 4 5 6 7 8 122.0 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

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Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/23/2020 12:40:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 133 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8.3 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley Docarno SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/2 1/2 +133.0 6" Light brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +132.5 Roots to 0.5ft 1 2 Light brown fine-medium SAND, trace silt (dry) 3 4 5 6 7 8 +124.7 Bottom of Test Pit at 8.3ft Bottom of Test Pit at 8.3ft, no groundwater encountered. Test pit backfilled with excavated soils in compacted lifts to grade. Surface 9 restored with grass removed prior to excavation. 10 LANGAN

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**LOG OF TEST PIT A-S-TP-14** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/23/2020 10:46:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 135.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 7.5 ft 7 ft 7 ft EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Olivia Chasse Wanderley SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 6" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] +135.0 Light brown fine-medium SAND, trace silt (dry) Brown fine-coarse SAND, some f-c gravel, trace silt Roots to 1ft (moist) 2 3 4 5 6 7 Brown fine-coarse SAND, some f-c gravel, trace silt Groundwater encountered at 7ft (wet) Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft. Test pit backfilled with excavated soils in compacted lifts to grade. 8 Surface restored with grass removed prior to excavation.

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**LOG OF TEST PIT A-S-TP-15** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/4/2020 2:45:00 PM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 137 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft 7.5 ft 7.5 ft EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Jack Berritt SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/2 1/2 +137.0 6" Brown fine-medium SAND, trace silt, trace roots Vertical sidewalls mostly maintained. No redox. (dry) [TOPSOIL] +136.5 Brown medium SAND, trace silt (dry) 1 2 3 4 ALANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE. G-1 at 4.5ft. Infiltration test A-IT-15 at 4.5ft below grade, see log for details. 9 5 6 7 Brown medium SAND, trace silt (wet) Groundwater encountered at 7.5ft 8 +129.0 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

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**LOG OF TEST PIT A-S-TP-16** Sheet of 1 PROJECT NAME 1510101₀₁ **Hudson Logistics Center** 6/25/2020 10:02:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 140.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/ · 1// · 140.5 6" Brown fine-medium SAND, some roots, trace silt Vertical sidewalls maintained. No redox (dry) [TOPSOIL] +140.0 1 2 Light brown fine-medium SAND, trace silt (dry) 3 4 Roots to 4ft NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 5 6 7 8 +132.5 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

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Symbol	ELEV (feet)	DESCRIPTION		Depth Scale		Type		REMA	ARKS	
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||LANGAN.COMIDATA||BOS||DATA111510101101||PROJECT DATA|_DISCIPLINE||GEOTECHNICAL||GINTLOGS||15101010_ENTERPRISE_TEST PITS.GFJ... 7/13/2020 1:52:11 PM ... Report. Log - LANGANTP

**LOG OF TEST PIT A-S-TP-18** Sheet of 1 1 PROJECT NAME DATE 1510101₀₁ **Hudson Logistics Center** 6/4/2020 9:49:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 131 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 9 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 1/2 1/2 +131.0 6" Dark brown fine-medium SAND, trace silt, trace gravel, trace Vertical sidewalls mostly maintained. No redox. +130.5 (dry)[TOPSOIL] 1 2 Light brown fine-medium SAND, some fine gravel, trace silt (dry) 3 4 Roots to 4ft NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA_DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101_ENTERPRISE_ 5 6 7 8 9 +122.0 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

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. 7/13/2020 1:52:12 PM

TEST PITS.GPJ

**LOG OF TEST PIT A-S-TP-19** Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 10:52:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 121.5 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 305E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +121.5 5" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. (moist)[TOPSOIL] +121 1 Light brown to orangish SILT, trace fine sand, trace roots ILANGAN.COMIDATA/BOSIDATA1151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS.GPJ ... 7/13/2020 1:52:14 PM ... Report: Log - LANGANTP 1 Light brown SILT, some fine sand, trace roots (moist) 2 3 4 5 Light brown SILT, some fine sand (moist) 6 7 Mottled light brown to orangish brown sandy SILT 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

**LOG OF TEST PIT A-S-TP-20** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/4/2020 8:28:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 153 (NGVD29) EXCAVATION CONTRACTOR DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries 8.5 ft N/E N/E EQUIPMENT FOREMAN LANGAN PERSONNEL Takeuchi TB260 Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 +153.0 7" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] +152.4 Light brown fine-medium SAND, some silt (moist) 1 Report: 2 7/13/2020 1:52:14 PM 3 Light brown fine-medium SAND, trace silt Roots to 3.5ft (moist) 4 5 6 7 8 Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated 9 soils in compacted lifts to grade. Surface

10

restored with grass removed prior to excavation.

NLANGAN.COMDATABOSIDATA1/151010101/PROJECT DATA). DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101. ENTERPRISE. TEST PITS.GPJ

**LOG OF TEST PIT A-S-TP-21** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 8:46:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 115 (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 10" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (moist)[TOPSOIL] ILANGAN.COMIDATAIBOSIDATA1151010101/PROJECT DATA! DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS. GPJ ... 7/13/2020 1:52:16 PM ... Report. Log - LANGANTP 1 Light brown SILT, some fine sand, trace fine gravel, trace roots (moist) 2 3 Light brown SILT, some fine sand, trace fine gravel G-1 at 3ft. Infiltration test A-IT-21 at 3ft below (moist) grade, see log for details. 9 4 5 6 7 +107.5 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with excavated 8 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

**LOG OF TEST PIT A-S-TP-22** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 9:31:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 114 (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 8-9" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. No redox. (dry)[TOPSOIL] Light brown SILT, trace fine sand, trace roots ILANGAN.COMIDATA/BOSIDATA1151010101/PROJECT DATA/ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101 ENTERPRISE TEST PITS.GPJ ... 7/13/2020 1:52:16 PM ... Report: Log - LANGANTP 1 (moist) Light brown SILT, some fine sand, trace roots 2 (moist) 3 4 G-1 at 4ft. Infiltration test A-IT-22 at 4ft, see log for details. GRAB 9 5 +109.0 Light brown silty fine SAND (moist) 6 7 Bottom of Test Pit at 7.5ft Bottom of Test Pit at 7.5ft, no groundwater encountered. Test pit backfilled with excavated 8 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 9 10

**LOG OF TEST PIT A-S-TP-23** Sheet of 1 PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 9:38:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 113.5 (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** Pat Polster Olivia Chasse SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale 0 9-10" Dark brown fine-medium SAND, some silt, some roots Vertical sidewalls maintained. (moist)[TOPSOIL] Grayish brown to orangish SILT, some fine sand Report: Log - LANGANTP 1 (moist) 2 Grayish brown to orangish SILT, some fine sand NLANGAN.COM/DATA/BOS/DATA1/151010101/PROJECT DATA\ DISCIPLINE/GEOTECHNICAL/GINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ ... 7/13/2020 1:52:17 PM . (moist) 3 4 5 6 7 8 Mottled grayish brown to orangish brown silty fine SAND (moist) Bottom of Test Pit at 8.5ft Bottom of Test Pit at 8.5ft, no groundwater encountered. Test pit backfilled with excavated 9 soils in compacted lifts to grade. Surface restored with grass removed prior to excavation. 10

**LOG OF TEST PIT A-S-TP-24** Sheet 1 of PROJECT NAME **Hudson Logistics Center** 151010101 6/29/2020 8:18:00 AM LOCATION ELEVATION 59 Steele Road, Hudson, NH Elev. + 161 (NGVD29) **EXCAVATION CONTRACTOR** DEPTH WATER LEVEL - First WATER LEVEL - Completion Polster Industries N/E 7 ft N/E EQUIPMENT FOREMAN LANGAN PERSONNEL **CAT 304E** Pat Polster Taylor Sisti SAMPLE Depth Symbol ELEV (feet) **DESCRIPTION REMARKS** Scale +161.0 8" Light brown fine-medium SAND, some silt, some roots Vertical sidewalls mostly maintained. No redox. (dry)[TOPSOIL] 160.3 Light brown fine-coarse SAND, some f-c gravel, trace silt, trace 1 159.9 (dry) 2 Light brown fine-coarse SAND, some f-c gravel, trace silt, trace cobbles up to 7 inches (dry) 3 4 5 \LANGAN.COMIDATA\BOS\DATA1\15101011\PROJECT DATA\ DISCIPLINE\GEOTECHNICAL\GINTLOGS\151010101 +155.3 Light brown fine-coarse SAND, trace silt, trace f-c gravel 6 (dry) 7 Bottom of Test Pit at 7ft, no groundwater Bottom of Test Pit at 7ft 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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TEST PITS.GPJ

LOG OF TEST PIT A-S-TP-25 Sheet 1 of 1

F	PROJECT NAME Hudson Logistics Center				T NUMBER		15101	0101	DATE 6/29/2020 8:20:00 AM			
ī	OCATION	ELEVATI				Elev. + 155 (NGVD29)						
E	59 Steele Road, Hudson, NH  EXCAVATION CONTRACTOR Polster Industries					4	WATER LEV	/EL - First N/E	<u> </u>	WATER LEVEL - Completion		
E	EQUIPMENT			FOREMA		7.5 f		•	LANGAN		N/E T	
-	Takeuchi TB260				vvai	nderle	PLE	carno			Taylor Sisti	
5	Symbol	ELEV (feet)	DESCRIPTION		Depth Scale	Number	Туре		REMARKS			
NLANGAN COMDATANBOSIDATA1/1510101011/PROJECT DATAL_DISCIPLINE/GEOTECHNICALIGINTLOGS/151010101_ENTERPRISE_TEST PITS.GPJ 7/13/2020 1;52:20 PM Report: Log - LANGANTP		+155.0 +154.2 +153.3 +152.2	10" Light brown fine-medium SAND, some silt, some roots (dry)[TOPSOIL]  Light brown fine-medium SAND, some silt, trace fine gravel, tracots (dry)  Light brown fine-coarse SAND, some f-c gravel, trace silt (moist)  Light brown fine-coarse SAND, trace silt, trace f-c gravel (moist)  Bottom of Test Pit at 7.5ft	ace	- 0 - 0 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	in V		Bottom of encounter soils in co	Test Pit red. Test mpacted	at 7.5 pit ba	ft, no groundwater ckfilled with excavated orgade. Surface oved prior to excavation.	
A		1/V	uaiv									

## APPENDIX E TEST PIT PHOTOGRAPHS









151010101 Hudson Logistics Center Hudson, NH

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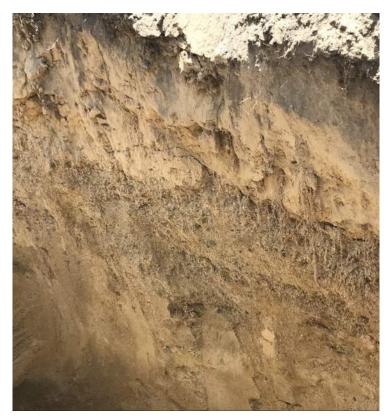


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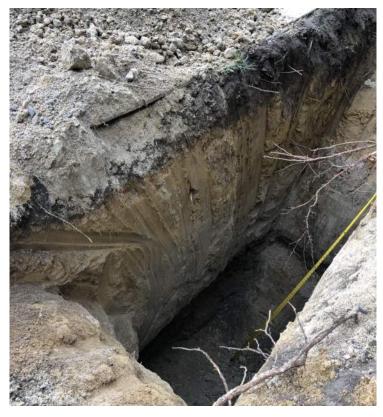


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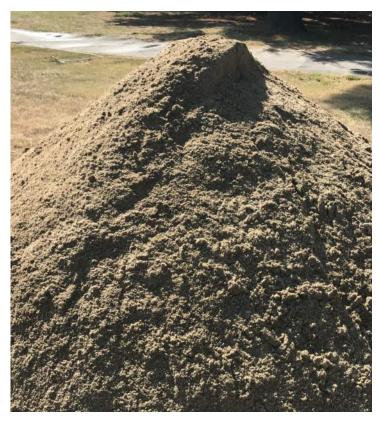
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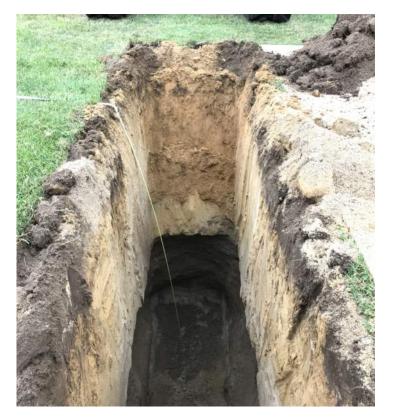






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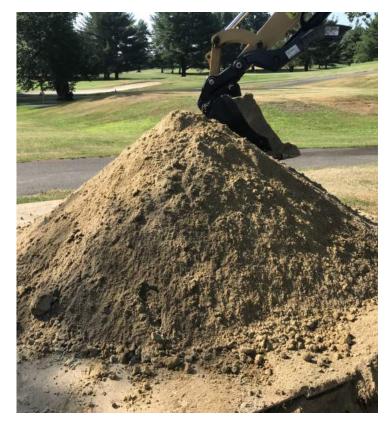
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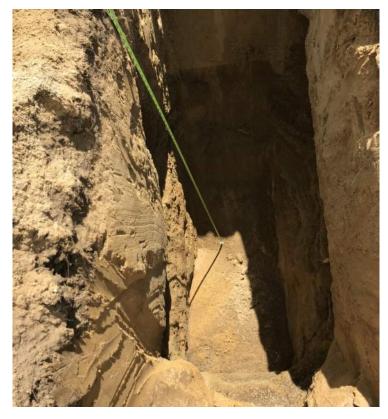


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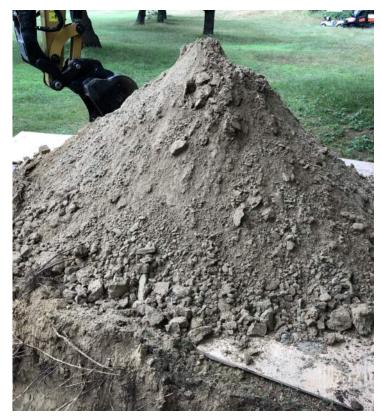
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# APPENDIX F WELL CONSTRUCTION LOGS & READINGS

### Lot A

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

Monitoring Well Lot ID		A							
Monitoring Well ID	A-S-BOR-01(OW)	A-B-BOR-17(OW)	A-S-BOR-19(OW)	A-B-BOR-20(OW)	A-B-BOR-34(OW)	A-B-BOR-37(OW)A	A-B-BOR-40(OW)		
Ground Surface Elevation (feet)	133.0	130.0	151.0	135.0	131.5	140.5	144.5		
Installation Date	7/1/2020	6/25/2020	7/2/2020	6/22/2020	6/25/2020	6/25/2020	6/19/2020		
Reference Point	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface	Ground Surface		
June 20, 2020									
Depth to Groundwater (feet)	NI	NI	NI	NI	NI	NI	Dry		
Groundwater Elevation (feet)	NA	NA	NA	NA	NA	NA	<128		
June 30, 2020									
Depth to Groundwater (feet)	NI	NM	NI	NM	NM	NM	NM		
Groundwater Elevation (feet)	NA	NA	NA	NA	NA	NA	NA		
July 1, 2020									
Depth to Groundwater (feet)	8.5	7.8	NI	11.9	10.7	19.6	Dry		
Groundwater Elevation (feet)	124.5	122.2	NM	118.1	119.3	110.4	<128		
July 19, 2020									
Depth to Groundwater (feet)	8.3	NM	Dry	12.2	10.9	NM	Dry		
Groundwater Elevation (feet)	124.7	NA	<132	122.8	120.6	NA	<128		
July 20, 2020									
Depth to Groundwater (feet)	8.8	8.8	Dry	12.5	11.1	20.1	Dry		
Groundwater Elevation (feet)	124.3	121.2	<132	122.5	120.4	120.4	<128		
July 29, 2020							·		
Depth to Groundwater (feet)	8.9	8.9	NM	12.7	11.3	20.3	Dry		
Groundwater Elevation (feet)	124.1	121.1	NA	122.3	120.2	120.2	<128		

### 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

	WELL CONSTRUCTION SUMMARY Well No. A-S-BOR-01(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010101				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	<b>тим</b> Аррго	k. 133	NGVD29		
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 7/1/2	020	<b>DATE FINISHED</b> 7/1/2020			
DRILLING EQUIPMENT	Truck Rig	DRILLER	Mike Kennedy				
SIZE AND TYPE OF BIT	4in Hollow Stem Auger	INSPECTOR	Taylor Sisti				

Boring A-S-BOR-01(OW) was advance to about 16.8ft with 4" HSA. The boring was backfilled with soil cuttings to about 15ft. 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		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH
el.	133		0	WELE DETAILS	CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	132.5		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	131		2	Riser -	Orange brown SILT	
TOP OF FILTER	ELEVATION		DEPTH (ft)		some fine sand	
el.	129		4			
TOP OF SCREEN	ELEVATION		DEPTH (ft)			
el.	128		5			4.0
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	<b>↓</b> Seal		
el.	116.2		16.8			
SCREEN LENGTH	10ft				Brown fine SAND, trace silt	
SLOT SIZE	0.1in			PVC	some f-c gravel	
GROUNI	OWATER EL	.EVATIONS		Screen		
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand		
7/1/2020	124.50	8.50		Pack		
DATE	ELEVATION	DEPTH TO WATER (ft)				14.0
7/9/2020	124.70	8.30			TILL	15.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	124.25	8.75				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	124.10	8.90				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. A-B-BOR-17(OW)							
PROJECT	Project Hudson	PROJECT NO.	151010101					
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DAT	<b>UM</b> Approx.	130	NGVD29			
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 6/25/2	020	<b>DATE FINISHED</b> 6/25/2020				
DRILLING EQUIPMENT	CME Truck-Mounted Drill Rig	DRILLER	John Knepple					
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Kenneth Idem					

Boring A-B-BOR-17(OW) was advance to about 29.5ft with 4" HSA. The boring was backfilled with soil cuttings to about 16ft. 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	
THE OF GAGING	1 10	DIAMETER	2111.	THE OF BAOMILE MATERIAL	/ tagor oattings	
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.	130		0	WELL DETAILS	CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	129.5		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	128		2	Riser		
TOP OF FILTER	ELEVATION		DEPTH (ft)			
el.	126		4			
TOP OF SCREEN	ELEVATION		DEPTH (ft)	<b>→</b> Bad	kfill	
el.	124		6			
BOTTOM OF BORING	ELEVATION		DEPTH (ft)		Seal	
el.	100.5		29.5		Brown fine SAND, trace silt	
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC		
GROUNI	OWATER EL	.EVATIONS		Screen		
DATE	ELEVATION	DEPTH TO WATER (ft)			and	
7/1/2020	122.20	7.80		F	Pack	
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	121.20	8.80				16.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	121.10	8.90				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. A-S-BOR-19(OW)							
PROJECT	Project Hudson	<b>PROJECT NO</b> . 151010	101					
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DATUM	Approx.	151	NGVD29			
DRILLING AGENCY	SoilTesting, Inc.	DATE STARTED 7/2/2020		<b>DATE FINISHED</b> 7/2/2020				
DRILLING EQUIPMENT	Truck Rig	<b>DRILLER</b> Sam De	eangelis					
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR Jack Be	erritt					

Boring A-S-BOR-19(OW) was advance to about 19ft with 4" HSA. The boring was backfilled with soil cuttings to about 10ft. The screen and riser for the well was placed into the borehole. 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	<b>ELEVATION</b> 151		DEPTH (ft)	WELL DETAILS		SUMMARY SOIL CLASSIFICATION	DEPTH (FT)	
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	-	Ground Surface	0.0	
	150.5		0.5		-	Ground Garrage	0.0	
TOP OF SEAL	ELEVATION		DEPTH (ft)		Seal			
	145		6	2" PVC	ocai	LightBrown fine SAND,		
TOP OF FILTER	ELEVATION		DEPTH (ft)			trace silt		
el.	143		8			trace fine gravel		
TOP OF SCREEN	ELEVATION		DEPTH (ft)			, and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second		
el.	151		0					
BOTTOM OF BORING	ELEVATION		DEPTH (ft)		Seal			
el.	132		19	PVC			10.0	
SCREEN LENGTH	19ft			Screen				
SLOT SIZE	0.1in							
GROUNI	OWATER EL	EVATIONS			Sand	TILL		
DATE	ELEVATION	DEPTH TO WATER (ft)			Pack			
7/9/2020	< 132	DRY						
DATE	ELEVATION	DEPTH TO WATER (ft)						
7/20/2020	< 132	DRY					19.0	
DATE	ELEVATION	DEPTH TO WATER (ft)			Ī			
DATE	ELEVATION	DEPTH TO WATER (ft)						
DATE	ELEVATION	DEPTH TO WATER (ft)						
DATE	ELEVATION	DEPTH TO WATER (ft)						

	WELL CONSTRUCTION SUMMARY Well No. A-B-BOR-20(OW)							
PROJECT	Project Hudson	PROJECT NO.	1510101	01				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	TUM /	Approx.	135	NGVD29		
DRILLING AGENCY	Seaboard Drilling, Inc.	DATE STARTED 6/22/	/2020		<b>DATE FINISHED</b> 6/22/2020			
DRILLING EQUIPMENT	Diedrich D50	DRILLER	Jeff Nitso	ch				
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Reid Balk	kind				

Boring A-B-BOR-20(OW) was advance to about 25.2ft with 4" HSA. The boring was backfilled with soil cuttings to about 18ft. 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 135		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL CLASSIFICATION	DEPTH (FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	134.5		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	130		5	Riser -		
TOP OF FILTER	ELEVATION		DEPTH (ft)		Brown fine SAND,	
el.	128		7		trace silt	
TOP OF SCREEN	ELEVATION		DEPTH (ft)	<b>→</b> Backfill	trace f-c gravel	
el.	127		8			
SOTTOM OF BORING	ELEVATION		DEPTH (ft)	Seal		
el.	109.8		25.2			
SCREEN LENGTH	10ft					13.5
SLOT SIZE	0.1in			PVC		
GROUNI	OWATER EL	EVATIONS		Screen	TILL	
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand		
7/1/2020	123.10	11.90		Pack		
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/9/2020	122.80	12.20				18.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	122.50	12.50				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	122.30	12.70				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

WELL CONSTRUCTION SUMMARY Well No. A-B-BOR-34(OW)							
PROJECT	Project Hudson	PROJECT NO.	15101010	01			
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	TUM A	Арргох.	131.5	NGVD29	
DRILLING AGENCY	Atlantic Testing Laboraties	DATE STARTED 6/25/	/2020		<b>DATE FINISHED</b> 6/25/2020		
DRILLING EQUIPMENT	Geoprobe 7822 DT	DRILLER	Scott Mc	gregor			
SIZE AND TYPE OF BIT	3-7/8in Tricone Roller Bit	INSPECTOR	Jack Berr	ritt			

Boring A-B-BOR-34(OW) was advance to about 32ft with 3-7/8" casings. The boring was backfilled with soil cuttings to about 20ft. The screen and riser for the well was placed into the borehole. #2 filter sand was poured around the pipe to 8ft above the screen as the augers were removed. A 1.5-foot seal of 3/8" Bentonite Chips was placed above the filter sand. The remaining casings 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	3-7/8"			TYPE OF FILTER MATERIAL	FilPro #2 sand	
TOP OF CASING	ELEVATION		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH
el.	131.5		0		CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	131.5		0			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	131		0.5	Riser →		
TOP OF FILTER	ELEVATION		DEPTH (ft)			
el.	129.5		2			
TOP OF SCREEN	ELEVATION		DEPTH (ft)	<b>→</b> Backfil		
el.	121.5		10			
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	Sea	Brown fine SAND,	
el.	99.5		32		trace silt	
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC		
GROUNI	OWATER EL	EVATIONS		Screen		
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand	trace fine gravel	
7/1/2020	119.30	10.70		Pack	1	
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/9/2020	120.60	10.90				20.0
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	120.40	11.10				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	120.20	11.30				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

	WELL CONSTRUCTION SUMMARY Well No. A-B-BOR-37A(OW)							
PROJECT	Project Hudson	PROJECT NO.	151010101	1				
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	<b>\тим</b> Ар	oprox.	140.5	NGVD29		
DRILLING AGENCY	Seaboard Drilling, Inc.	DATE STARTED 6/25	/2020	D	<b>PATE FINISHED</b> 6/25/2020			
DRILLING EQUIPMENT	Mobile Drill B53	DRILLER	Jeff Nitsch	ı				
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Reid Balkin	nd				

Boring A-B-BOR-37A(OW) was advance to about 30.3ft 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 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	LTER MATERIAL FilPro #2 sand	
TOP OF CASING	ELEVATION		DEPTH (ft)	WELL DETAILS	SUMMARY SOIL	DEPTH
	140.5		0		CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
	140		0.5			
TOP OF SEAL	ELEVATION		DEPTH (ft)		Brown fine-coarse SAND,	
el.	125.5		15	Riser -	trace silt	
TOP OF FILTER	ELEVATION		DEPTH (ft)		trace fine gravel	
el.	121.5		19			
TOP OF SCREEN	ELEVATION		DEPTH (ft)	Backfill		15.0
el.	120.5		20		Dark gray fine-coarse SAND,	
BOTTOM OF BORING	ELEVATION		DEPTH (ft)	<b>└──</b> Seal	trace silt, some fc gravel	
el.	110.2		30.3			20.0
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC	TILL	
GROUNI	DWATER EL	FVATIONS		Screen	IILL	
DATE	ELEVATION	DEPTH TO WATER (ft)		Sand		
7/1/2020	120.90	19.60		Pack		
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	120.40	20.10				30.0
DATE	ELEVATION	DEPTH TO WATER (ft)				00.0
7/29/2020	120.20	20.30				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				
DATE	ELEVATION	DEPTH TO WATER (ft)				

WELL CONSTRUCTION SUMMARY Well No. A-B-BOR-40(OW)						
PROJECT	Project Hudson	PROJECT NO.	151010101			
LOCATION	59 Steele Road, Hudson, NH	ELEVATION AND DA	<b>тим</b> Ар	prox.	144.5	NGVD29
DRILLING AGENCY	Atlantic Testing Laboraties	DATE STARTED 6/19/	/2020	DATE	FINISHED 6/19/2020	
DRILLING EQUIPMENT	Geoprobe 7822 DT	DRILLER	Ben Crary			
SIZE AND TYPE OF BIT	4" Hollow Stem Auger	INSPECTOR	Kenneth Ide	em		

Boring A-B-BOR-40(OW) was advance to about 34ft with 4" HSA. The boring was backfilled with soil cuttings to about 16.5ft. 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	
TTPE OF CASING	1 VC	DIAMETER	2111.	TITE 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.	144.5		0	WELL DETAILS	CLASSIFICATION	(FT)
TOP OF BACKFILL	ELEVATION		DEPTH (ft)	Cover	Ground Surface	0.0
el.	144.5		0			
TOP OF SEAL	ELEVATION		DEPTH (ft)	2" PVC		
el.	144		0.5	Riser →		
TOP OF FILTER	ELEVATION		DEPTH (ft)		Mixed Bedding:	
el.	141		3.5		Brown fine-coarse SAND,	
TOP OF SCREEN	ELEVATION		DEPTH (ft)	l d Ba	ackfill Brown silty fine SAND,	
el.	138		6.5		trace fine gravel,	
BOTTOM OF BORING	ELEVATION		DEPTH (ft)		Seal trace silt	
el.	110.5		34			
SCREEN LENGTH	10ft					
SLOT SIZE	0.1in			PVC Screen		
GROUN	DWATER EL	EVATIONS		Screen		
DATE	ELEVATION	DEPTH TO WATER (ft)			Sand	
6/20/2020	< 128	DRY			Pack	
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/1/2020	< 128	DRY				16.5
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/9/2020	< 128	DRY				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/20/2020	< 128	DRY				
DATE	ELEVATION	DEPTH TO WATER (ft)				
7/29/2020	< 128	DRY				
DATE	ELEVATION	DEPTH TO WATER (ft)			1	

# APPENDIX G LABORATORY TEST RESULTS



Location:Hudson, NHProject No:GBoring ID:---Sample Type:---Tested By:camSample ID:---Test Date:07/08/20Checked By:jsc

GTX-311848

Depth: --- Test Id: 562937

# Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
A-B-BOR-12	S- 2	2-4 ft	Moist, light yellowish brown silty sand	10.9
A-B-BOR-18	S- 6	10-12 ft	Moist, light olive brown sand	16.0
A-B-BOR-19	S- 4	6-8 ft	Moist, light olive brown silty sand with gravel	5.9
A-B-BOR-28	S- 3	4-6 ft	Moist, dark olive brown silty sand with gravel	9.3
A-B-BOR-33	S- 2	2-4 ft	Moist, light yellowish brown silt	22.2
A-B-BOR-40	S- 4	6-8 ft	Moist, yellowish brown silty sand	13.6
A-B-BOR-42	S- 5	8-10 ft	Moist, yellowish brown sandy silt	18.9
A-B-BOR-44	S- 6	10-12 ft	Moist, olive brown sand	14.6
A-B-BOR-105	S- 3	4-6 ft	Moist, light yellowish brown silty sand	19.4

Notes: Temperature of Drying: 110° Celsius



Location:Hudson, NHProject No:GTX-311848Boring ID:---Sample Type:---Tested By:ckgSample ID:---Test Date:07/31/20Checked By:bfs

Depth: --- Test Id: 567314

# Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
A-S-TP-02	G- 1	5-5.5 ft	Moist, light olive brown sandy silt	26.9
A-S-TP-21	G- 1	3-4 ft	Moist, light olive brown sandy silt	12.2
A-S-TP-22	G- 1	4-5 ft	Moist, yellowish brown sandy silt	19.2

Notes: Temperature of Drying: 110° Celsius



Location:Hudson, NHProject No:GTX-311848Boring ID:---Sample Type:---Tested By:ckgSample ID:---Test Date:06/17/20Checked By:jsc

Depth: --- Test Id: 559913

# Moisture Content of Soil and Rock - ASTM D2216

Boring ID	Sample ID	Depth	Description	Moisture Content,%
A-S-BOR-06	S- 8	17-19 ft	Moist, dark brown gravel with silt and sand	16.1
A-S-BOR-21	S- 5	8-10 ft	Moist, light yellowish brown silty sand with gravel	3.5
A-S-BOR-28	S- 7	15-17 ft	Moist, light olive brown silt	42.9
A-S-BOR-29	S- 2	2-4 ft	Moist, light olive brown sand	2.1
A-S-BOR-31	S- 3	4-6 ft	Moist, light yellowish brown silt	19.2
A-S-BOR-33	S- 4	6-8 ft	Moist, light yellowish brown sand	4.2

Notes: Temperature of Drying: 110° Celsius



Location:Hudson, NHProject No:GTX-311848Boring 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: 559915

# Amount of Material Passing #200 Sieve - ASTM D1140

Boring ID	Sample ID	Depth	Visual Description	Fines, %
A-B-BOR-44	S-6	10-12 ft	Moist, olive brown sand	3.3
A-S-BOR-28	S-7	15-17 ft	Moist, light olive brown silt	98.6

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



Client: Langan Engineering Project: Project Hudson

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

Sample ID: --- Test Date: 08/05/20 Checked By: bfs

Depth: --- Test Id: 567302

## Amount of Material Passing #200 Sieve - ASTM D1140

Boring ID	Sample ID	Depth	Visual Description	Fines, %
A-R-BOR-01	S-8	20-22 ft	Moist, olive brown sand with gravel	3.7
A-R-BOR-05	S-7	15-17 ft	Moist, olive brown sand with silt	10.6
A-R-BOR-12	S-8B	21-22 ft	Moist, olive brown sandy silt	66.5
A-R-BOR-16	S-7	15-17 ft	Moist, brown sand	0.3
A-R-BOR-18	S-5	8-10 ft	Moist, gray sand with gravel	2.3

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



Project No: Boring ID: A-B-BOR-12 Sample Type: jar Tested By: ckg Sample ID: S-2 Test Date: 06/10/20 Checked By: bfs

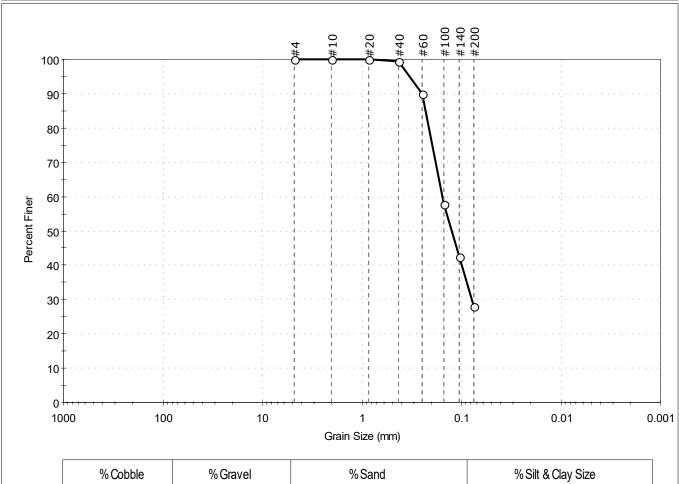
559416 Depth: 2-4 ft Test Id:

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	71.8	28.2

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	90		
#100	0.15	58		
#140	0.11	42		
#200	0.075	28		

<u>Coefficients</u>						
D ₈₅ = 0.2311 mm	$D_{30} = 0.0784 \text{ mm}$					
D ₆₀ = 0.1551 mm	$D_{15} = N/A$					
D ₅₀ = 0.1256 mm	$D_{10} = N/A$					
$C_u = N/A$	$C_c = N/A$					

GTX-311848

Classification **ASTM** N/A AASHTO Silty Gravel and Sand (A-2-4 (0))

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



Location:Hudson, NHProject No:CBoring ID:A-B-BOR-18Sample Type:jarTested By:ckgSample ID:S-6Test Date:07/09/20Checked By:jsc

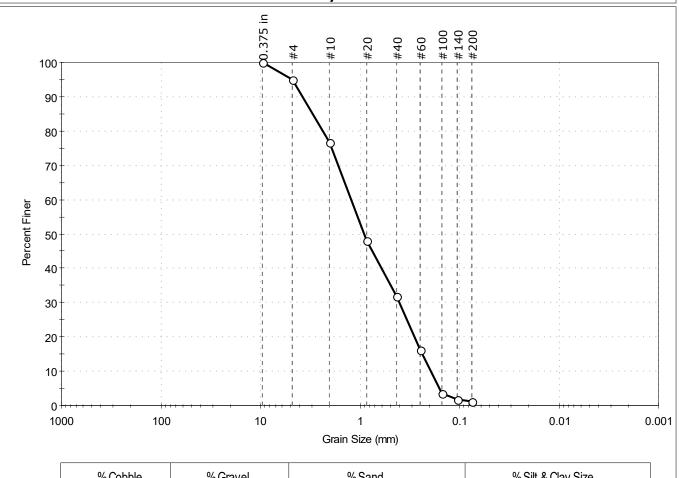
Depth: 10-12 ft Test Id: 562930

Test Comment: ---

Visual Description: Moist, light olive brown sand

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



		% Cobble % Gravel				% Silt & Clay Size			
	_ 4		4.9						
Sieve Name   Sieve Size, mm   Percent Finer   Spec. Percent			Spec. Percent	Complies			Coeffic	<u>cients</u>	
							$D_{85} = 2.95$	09 mm	$D_{30} = 0.3998 \text{ mm}$
	0.375 in	9.50	100				$D_{60} = 1.21$	01 mm	$D_{15} = 0.2382 \text{ mm}$

#10 2.00 77 #20 0.85 48 #40 0.42 32 #60 0.25 16 #100 0.15 4

#140 0.11 2 #200 0.075 1.1

ASTM Poorly graded SAND (SP)

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

 $D_{10} = 0.1948 \text{ mm}$ 

 $C_c = 0.678$ 

GTX-311848

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

Sand/Gravel Hardness: HARD

 $D_{50} = 0.8973 \text{ mm}$ 

 $C_u = 6.212$ 



Project No: GTX-311848 Boring ID: A-B-BOR-19 Sample Type: jar Tested By: ckg Test Date: 07/10/20 Checked By: jsc Sample ID: S-4

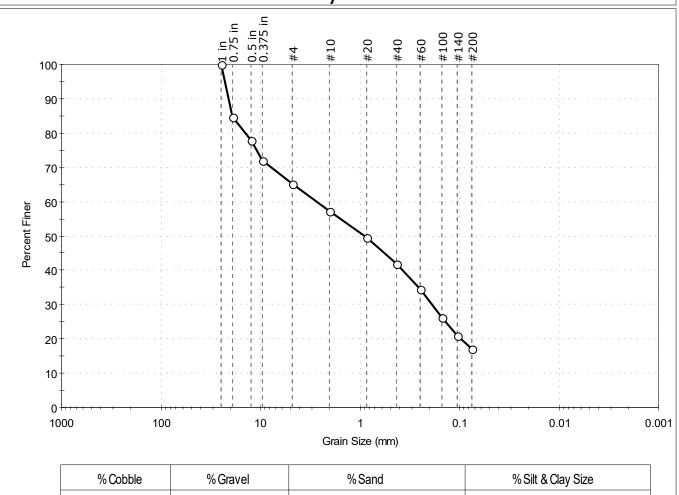
562929 Depth: 6-8 ft Test Id:

Test Comment:

Visual Description: Moist, light olive brown silty sand with gravel

Sample Comment:

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	34.8	48.1	17.1

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	85		
0.5 in	12.50	78		
0.375 in	9.50	72		
#4	4.75	65		
#10	2.00	57		
#20	0.85	50		
#40	0.42	42		
#60	0.25	35		
#100	0.15	26		
#140	0.11	21		
#200	0.075	17		

	GGGTTGTGTTG			
D ₈₅ = 19.1533 mm	$D_{30} = 0.1887 \text{ mm}$			
D ₆₀ = 2.6940 mm	$D_{15} = N/A$			
D ₅₀ = 0.8864 mm	$D_{10} = N/A$			
C _u =N/A	$C_c = N/A$			

Coefficients

Classification **ASTM** N/A <u>AASHTO</u> Stone Fragments, Gravel and Sand (A-1-b(0))

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

Sand/Gravel Hardness: HARD



Location:Hudson, NHProject No:GTX-311848Boring ID:A-B-BOR-28Sample Type: jarTested By:ckgSample ID:S-3Test Date:07/09/20Checked By:jsc

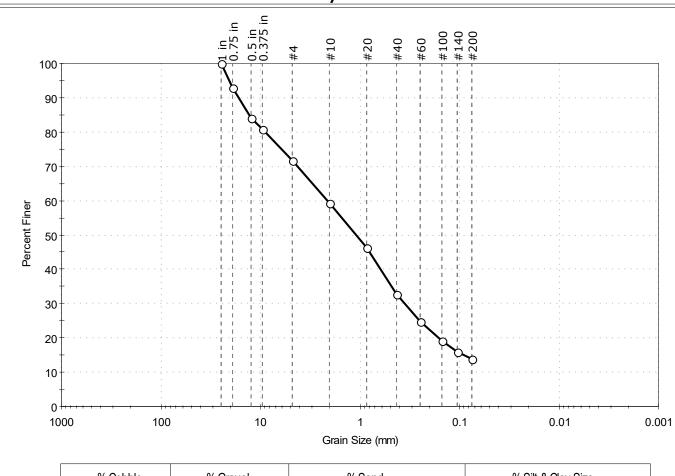
Depth: 4-6 ft Test Id: 562926

Test Comment: ---

Visual Description: Moist, dark olive brown silty sand with gravel

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	28.4	57.9	13.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	93		
0.5 in	12.50	84		
0.375 in	9.50	81		
#4	4.75	72		
#10	2.00	59		
#20	0.85	46		
#40	0.42	33		
#60	0.25	25		
#100	0.15	19		
#140	0.11	16		
#200	0.075	14		

<u>Coefficients</u>				
D ₈₅ =12.9971 mm	$D_{30} = 0.3524 \text{ mm}$			
D ₆₀ = 2.1044 mm	$D_{15} = 0.0911 \text{ mm}$			
D ₅₀ = 1.0852 mm	$D_{10} = N/A$			
Cu =N/A	$C_C = N/A$			

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



Location:Hudson, NHProject No:CBoring ID:A-B-BOR-33Sample Type:jarTested By:ckgSample ID:S-2Test Date:07/09/20Checked By:jsc

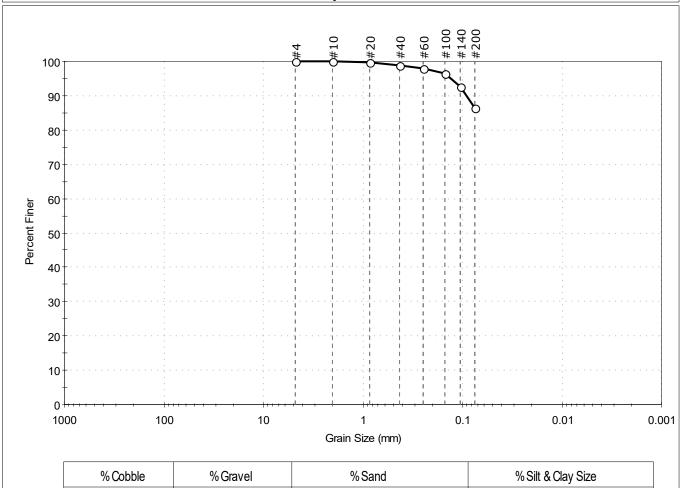
Depth: 2-4 ft Test Id: 562928

Test Comment: ---

Visual Description: Moist, light yellowish brown silt

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



13.5

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	96		
#140	0.11	93		
#200	0.075	86		

0.1

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

86.4

GTX-311848

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

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

Sand/Gravel Hardness : ---



Location:Hudson, NHProject No:CBoring ID:A-B-BOR-40Sample Type:jarTested By:ckgSample ID:S-4Test Date:07/09/20Checked By:jsc

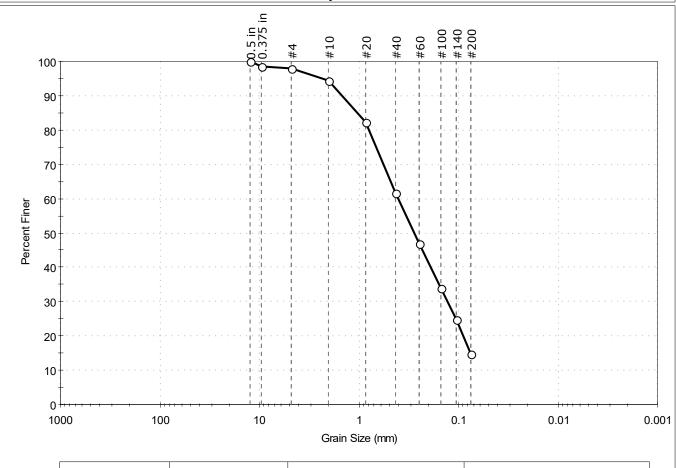
Depth: 6-8 ft Test Id: 562934

Test Comment: ---

Visual Description: Moist, yellowish brown silty sand

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	2.0	83.3	14.7

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	99		
#4	4.75	98		
#10	2.00	94		
#20	0.85	82		
#40	0.42	62		
#60	0.25	47		
#100	0.15	34		
#140	0.11	25		
#200	0.075	15		

<u>Coefficients</u>				
D ₈₅ =1.0371 mm	$D_{30} = 0.1292 \text{ mm}$			
D ₆₀ = 0.4010 mm	$D_{15} = 0.0757 \text{ mm}$			
D ₅₀ = 0.2793 mm	$D_{10} = N/A$			
C _u =N/A	$C_c = N/A$			

GTX-311848

Classification N/A

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

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

Sand/Gravel Hardness: HARD

<u>ASTM</u>



Location: Hudson, NH Project No: C
Boring ID: A-B-BOR-42 Sample Type: jar Tested By: ckg
Sample ID: S-5 Test Date: 06/10/20 Checked By: bfs

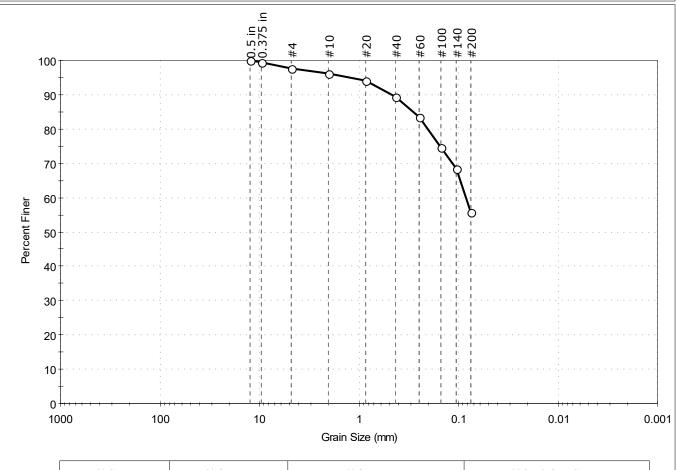
Depth: 8-10 ft Test Id: 559411

Test Comment: ---

Visual Description: Moist, yellowish brown sandy silt

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	2.3	41.9	55.8

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.5 in	12.50	100		
0.375 in	9.50	99		
#4	4.75	98		
#10	2.00	96		
#20	0.85	94		
#40	0.42	89		
#60	0.25	84		
#100	0.15	74		
#140	0.11	69		
#200	0.075	56		

<u>Co</u>	<u>efficients</u>	
D ₈₅ = 0.2846 mm	$D_{30} = N/A$	
D ₆₀ = 0.0841 mm	$D_{15} = N/A$	
D ₅₀ = N/A	$D_{10} = N/A$	
C _u =N/A	$C_c = N/A$	

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:CBoring ID:A-B-BOR-105Sample Type:jarTested By:ckgSample ID:S-3Test Date:07/09/20Checked By:jsc

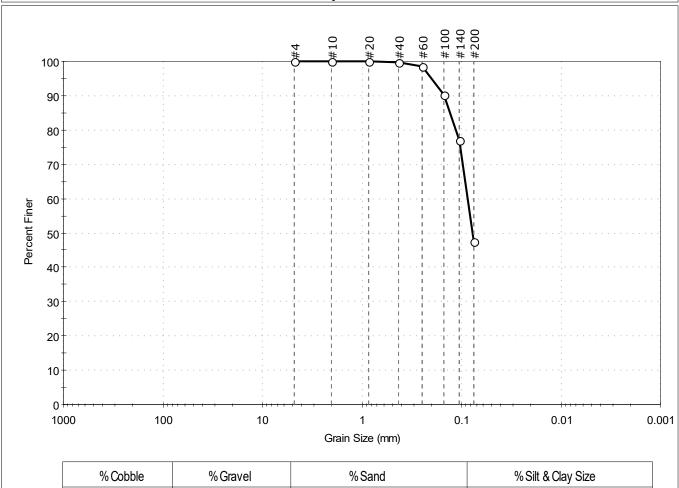
Depth: 4-6 ft Test Id: 562927

Test Comment: ---

Visual Description: Moist, light yellowish brown silty sand

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



lame	Sieve Size, mm Percen	t Finer Spec. Percent	Complies	<u>Coefficients</u>	
		0.1	52.5	47.4	
	% Cobble	% Gravel	%Sand	% Silt & Clay Size	

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	90		
#140	0.11	77		
#200	0.075	47		

	Coefficients
D ₈₅ = 0.1308 mn	$D_{30} = N/A$
D ₆₀ = 0.0869 mn	$D_{15} = N/A$
D ₅₀ = 0.0773 mn	$D_{10} = N/A$
C _u =N/A	C _c =N/A

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:A-S-BOR-06Sample Type: jarTested By:ckgSample ID:S-8Test Date:06/22/20Checked By:bfs

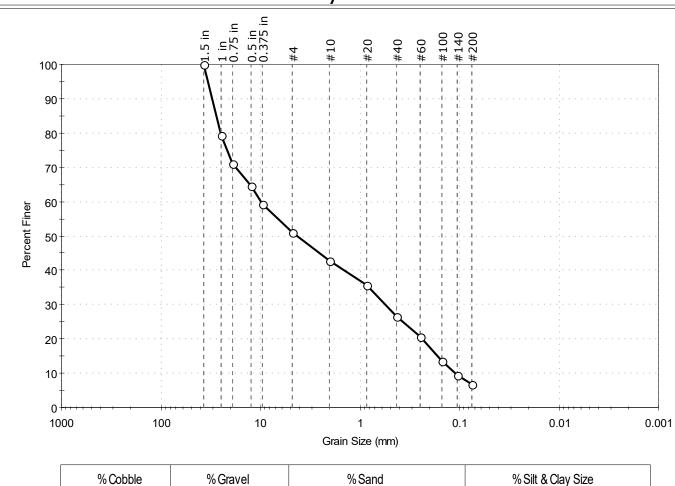
Depth: 17-19 ft Test Id: 559927

Test Comment: ---

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

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	48.9	44.2	6.9

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1.5 in	37.50	100		
1 in	25.00	79		
0.75 in	19.00	71		
0.5 in	12.50	64		
0.375 in	9.50	59		
#4	4.75	51		
#10	2.00	43		
#20	0.85	36		
#40	0.42	27		
#60	0.25	21		
#100	0.15	13		
#140	0.11	9		
#200	0.075	6.9		

<u>Coefficients</u>			
D ₈₅ = 27.9494 mm	$D_{30} = 0.5490 \text{ mm}$		
D ₆₀ = 9.9197 mm	$D_{15} = 0.1680 \text{ mm}$		
D ₅₀ =4.2380 mm	$D_{10} = 0.1117 \text{ mm}$		
Cu =88.807	$C_c = 0.272$		

Classification N/A

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

Sand/Gravel Hardness: HARD

<u>ASTM</u>



Location:Hudson, NHProject No:CBoring ID:A-S-BOR-21Sample Type: jarTested By:ckgSample ID:S-5Test Date:06/22/20Checked By:bfs

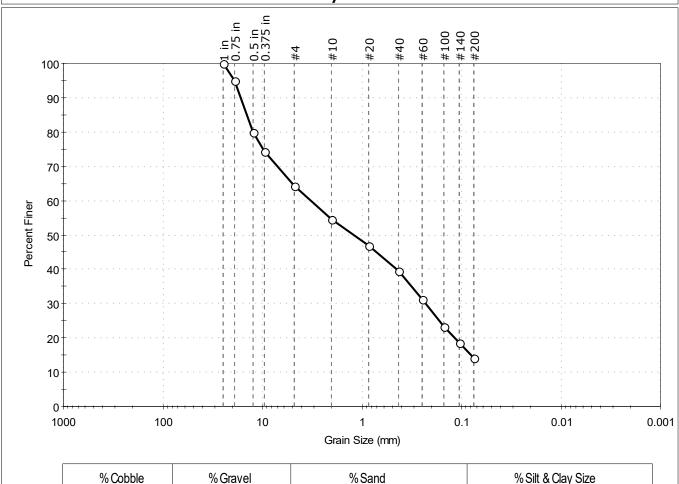
Depth: 8-10 ft Test Id: 559922

Test Comment: ---

Visual Description: Moist, light yellowish brown silty sand with gravel

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	35.7	50.1	14.2

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
1 in	25.00	100		
0.75 in	19.00	95		
0.5 in	12.50	80		
0.375 in	9.50	74		
#4	4.75	64		
#10	2.00	55		
#20	0.85	47		
#40	0.42	39		
#60	0.25	31		
#100	0.15	23		
#140	0.11	19		
#200	0.075	14		

<u>Coefficients</u>			
D ₈₅ = 14.3537 mm	$D_{30} = 0.2295 \text{ mm}$		
D ₆₀ = 3.2346 mm	$D_{15} = 0.0796 \text{ mm}$		
D ₅₀ = 1.1942 mm	$D_{10} = N/A$		
Cu =N/A	$C_C = N/A$		

GTX-311848

ASTM N/A

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

**Classification** 

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



Location: Hudson, NH Project No: C Boring ID: A-S-BOR-29 Sample Type: jar Tested By: ckg Sample ID: S-2 Test Date: 06/10/20 Checked By: bfs

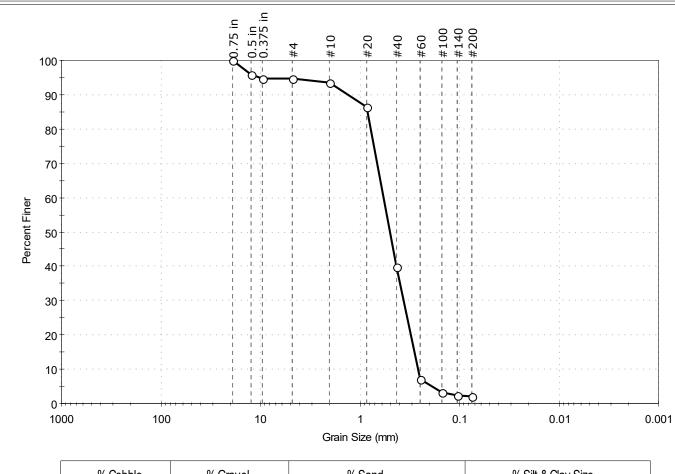
Depth: 2-4 ft Test Id: 559413

Test Comment: ---

Visual Description: Moist, light olive brown sand

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	5.2	92.8	2.0

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
0.75 in	19.00	100		
0.5 in	12.50	96		
0.375 in	9.50	95		
#4	4.75	95		
#10	2.00	94		
#20	0.85	86		
#40	0.42	40		
#60	0.25	7		
#100	0.15	3		
#140	0.11	2		
#200	0.075	2.0		

<u>Coefficients</u>			
D ₈₅ = 0.8313 mm	$D_{30} = 0.3621 \text{ mm}$		
D ₆₀ = 0.5733 mm	D ₁₅ =0.2838 mm		
D ₅₀ = 0.4941 mm	$D_{10} = 0.2617 \text{ mm}$		
C _u =2.191	$C_c = 0.874$		

GTX-311848

<u>Classification</u> ASTM Poorly graded SAND (SP)

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

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

Sand/Gravel Hardness: HARD



Project No: GTX-311848 Boring ID: A-S-BOR-31 Sample Type: jar Tested By: ckg Sample ID: S-3 Test Date: 06/22/20 Checked By: bfs

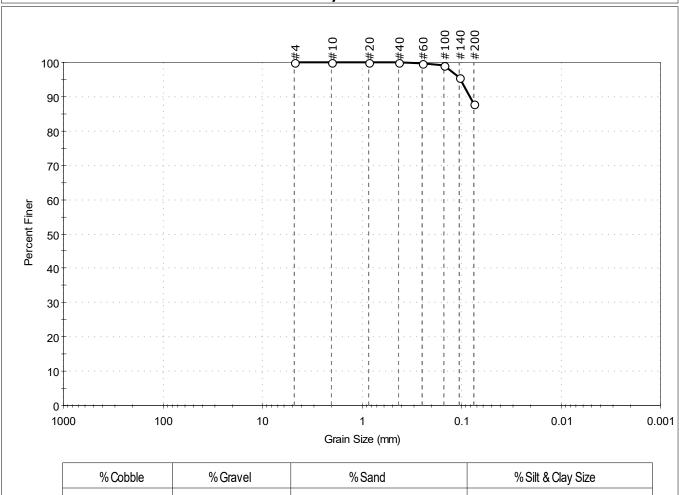
559925 Depth: 4-6 ft Test Id:

Test Comment:

Visual Description: Moist, light yellowish brown silt

Sample Comment:

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	0.0	12.1	87.9

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	100		
#60	0.25	100		
#100	0.15	99		
#140	0.11	96		
#200	0.075	88		

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

Classification

**ASTM** N/A AASHTO Silty Soils (A-4 (0))

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



Location:Hudson, NHProject No:CBoring ID:A-S-BOR-33Sample Type: jarTested By:ckgSample ID:S-4Test Date:06/22/20Checked By:bfs

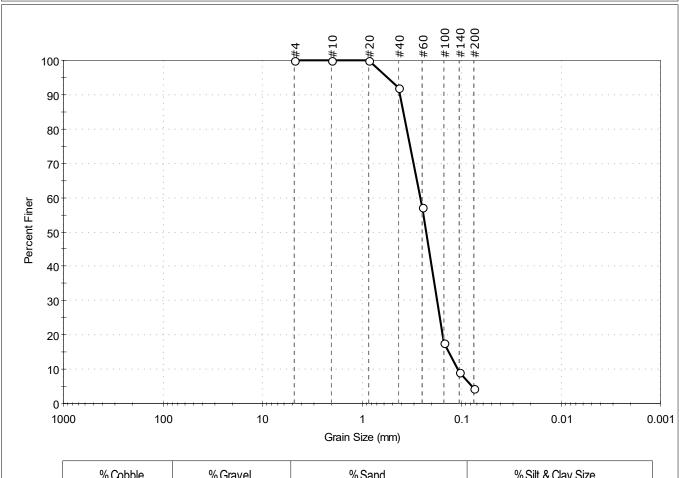
Depth: 6-8 ft Test Id: 559926

Test Comment: ---

Visual Description: Moist, light yellowish brown sand

Sample Comment: ---

# Particle Size Analysis - ASTM D6913



% Cobble	% Gravel	% Sand	% Silt & Clay Size
	0.0	95.5	4.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
	4.75	100		
#4	4.75	100		
#10	2.00	100		
#20	0.85	100		
#40	0.42	92		
#60	0.25	57		
#100	0.15	18		
#140	0.11	9		
#200	0.075	4.5		

COCI	Helenes
D ₈₅ = 0.3819 mm	$D_{30} = 0.1756 \text{ mm}$
D ₆₀ = 0.2608 mm	$D_{15} = 0.1339 \text{ mm}$
D ₅₀ = 0.2276 mm	$D_{10} = 0.1096 \text{ mm}$
$C_u = 2.380$	$C_c = 1.079$

Coefficients

GTX-311848

ASTM Poorly graded SAND (SP)

AASHTO Fine Sand (A-3 (1))

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

Sand/Gravel Hardness : ---



Location:Hudson, NHProject No:CBoring ID:A-S-TP-02Sample Type:bagTested By:ckgSample ID:G-1Test Date:08/03/20Checked By:bfs

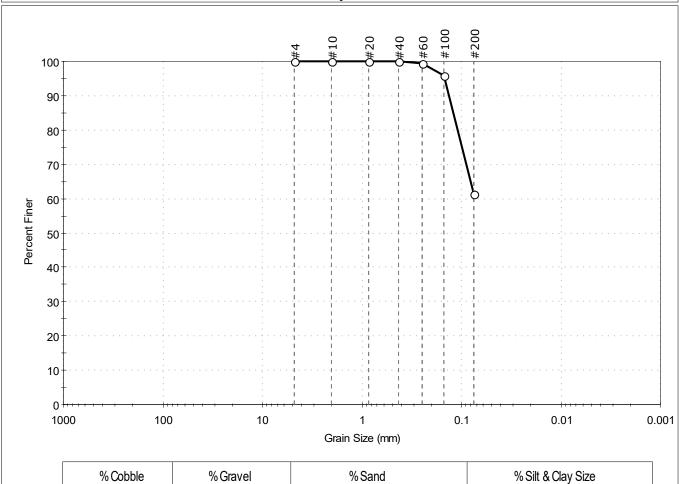
Depth: 5-5.5 ft Test Id: 567303

Test Comment: ---

Visual Description: Moist, light olive brown sandy silt

Sample Comment: ---

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	0.0	38.5	61.5

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	100		
#100	0.15	96		
#200	0.075	61		

<u>Coefficients</u>				
D ₈₅ = 0.1204 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	$C_C = N/A$			

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:CBoring ID:A-S-TP-21Sample Type:bagTested By:ckgSample ID:G-1Test Date:08/03/20Checked By:bfs

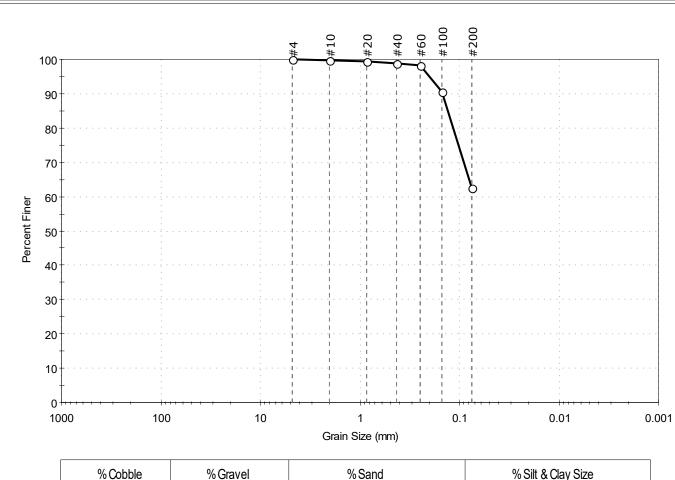
Depth: 3-4 ft Test Id: 567304

Test Comment: ---

Visual Description: Moist, light olive brown sandy silt

Sample Comment: ---

### Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	0.0	37.5	62.5

Sieve Name	Sieve Size, mm	Percent Finer	Spec. Percent	Complies
#4	4.75	100		
#10	2.00	100		
#20	0.85	99		
#40	0.42	99		
#60	0.25	98		
#100	0.15	90		
#200	0.075	62		

<u>Coefficients</u>							
D ₈₅ = 0.1311 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	$C_C = N/A$						

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:A-S-TP-22Sample Type:bagTested By:ckgSample ID:G-1Test Date:08/03/20Checked By:bfs

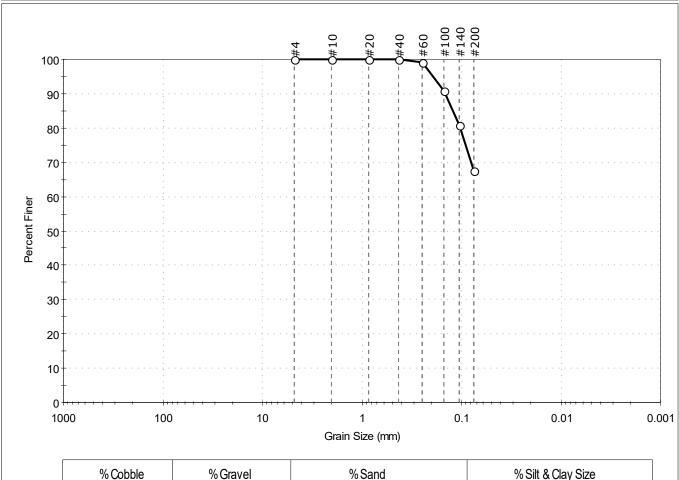
Depth: 4-5 ft Test Id: 567305

Test Comment: --

Visual Description: Moist, yellowish brown sandy silt

Sample Comment: ---

## Particle Size Analysis - ASTM D422



% Cobble	% Gravel	% Sand	% Silt & Clay Size
_	0.0	32.5	67.5

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	91		
#140	0.11	81		
#200	0.075	68		

<u>Coefficients</u>							
D ₈₅ = 0.1224 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						

GTX-311848

ASTM N/A Classification

AASHTO Silty Soils (A-4 (0))

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





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Analysis No. TS-A2008798
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

Sample		Res	Detection Limit		
Sai	пріє	ppm (mg/kg)	% ¹	Detection Limit	
A-B-	TP-04	-10	-0.0010		
S-1	1 – 1.5'	<10.	<0.0010		
A-B-	A-B-TP-09		<0.0010		
S-1	1 – 1.5'	<10.	<0.0010	10.	
A-B-	A-B-TP-14		<0.0010	10.	
S-1	2 – 2.5'	<10.	<0.0010		
A-B-TP-19		<10.	<0.0010		
S-1	2.5 – 3.5'	< 10.	<0.0010		

NOTE: ¹Percent by weight as received.



3455 South 500 West Salt Lake City, UT 84115-4234 USA

Analysis TS-A2008798 GeoTesting Express, Inc. Page 2 of 2

Report Date: 10 July 2020

#### CERTIFICATE OF ANALYSIS

ASTM D 516 - Sulfates (Soluble)

Sar	nple	Res	Detection Limit		
Sai	libie	ppm (mg/kg) % ¹			
A-B-	ΓP-04	<10.	<0.0010		
S-1	1 – 1.5'	< 10.	<0.0010		
A-B-TP-09		<10.	<0.0010		
S-1	1 – 1.5'	< 10.	<0.0010	10.	
A-B-	A-B-TP-14		<0.0010	10.	
S-1	2 – 2.5'	<10.	<0.0010		
A-B-TP-19		<10.	<0.0010		
S-1	2.5 – 3.5'	< 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<br/>INFILTRATION TEST LOGS

#### **INFILTRATION TESTS**

A-IT-01 performed in A-S-TP-01

PROJECT		Project Hudson		PROJECT NO. 1510	151010101			
LOCATION		59 Steele Road, F	ludson, NH	<b>DATE</b> 6/24,	6/24/2020 to 6/25/2020			
INSPECTOR Olivia Chasse				<b>WEATHER</b> Rain, 70s°F/Sunny, 80s°F				
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM	/			
	<b>Start</b> 14:10 24		Surface Elevation	Approx.	135.5	(NGVD29)		
	End	14:36	2	Top of Hole Elevation	Approx.	130.5	(NGVD29)	
	*	presoak timing sto	opped at 2 inches due to heavy rain	Bottom of Hole Elevation	Approx.	128.5	(NGVD29)	

#### METHOD OF INFILTRATION TEST

A-S-TP-01 was advanced to a depth of about 5 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 overnight. Timing for the presoak was stopped due to heavy rainfall and the infiltration testing hole was free of water the following morning prior to starting infiltration testing. 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 A-S-TP-01 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 CONDITIONS	
TEST 1	0	24	-	-	-	Light brown fir	ao SAND traco cilt
1231 1	2460	0	2460	0.59	35.12	Light brown fine SAND, trace silt	
	Average Rate:		35.1	inches/hour			
					_		
	TIME (SEC)	DEPTH OF WATER (IN)	··· I INTERVAL I ··· I		RATE (IN/HOUR)	SOIL CO	ONDITIONS
TEST 2	0	24	-	-	-	Light brown fine SAND, trace silt	
12312	3240	0	3240	0.44	26.67		
	Average Rate			erage Rate:	26.7	inches/hour	

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CO	ONDITIONS
TEST 3	0	24	=	-	-	Light brown fin	oo SAND trace eilt
12313	2460	0	2460	0.59	35.12	Light brown fine SAND, trace silt	
	Average Rate: 35.		35.1	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 fir	oo SAND trace silt
1231 4	2880	0	2880	0.50	30.00	Light brown fine SAND, trace silt	
			Average Rate:		30.0	inches/hour	

Lowest Average Rate:	26.7	inches/hour
----------------------	------	-------------

#### **INFILTRATION TESTS**

A-IT-02 performed in A-S-TP-02

PROJECT		Project Hudson		<b>PROJECT NO.</b> 1510	151010101				
LOCATION		59 Steele Road, H	ludson, NH	DATE 6/24/2020 to 6/25/2020					
INSPECTOR Olivia Chasse			WEATHER Rain, 70s°F/Sunny, 80s°F						
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM	DATUM				
	Start	13:00	24	Surface Elevation	Approx.	133	(NGVD29)		
<b>End</b> 13:16 4				Top of Hole Elevation	Approx.	130.0	(NGVD29)		
	*	presoak timing sto	opped at 4 inches due to heavy rain	Bottom of Hole Elevation	Approx.	128.0	(NGVD29)		

#### METHOD OF INFILTRATION TEST

A-S-TP-02 was advanced to a depth of about 3 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 presoakedwith 24 inches of water and allowed to drain overnight. Timing for the presoak was stopped due to heavy rainfall and the infiltration testing hole was free of water the following morning prior to starting infiltration testing. 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 A-S-TP-02 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)	so	IL CONDITIONS	
TEST 1	0	24	-	-	-	Light brown fine sandy SILT		
1201 1	2340	0	2340	0.62	36.92	Light b	TOWN TIME Sandy SILT	
			Av	erage Rate:	36.9	inches/hour		
			TIN 45					
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	so	IL CONDITIONS	
TEST 2	0	24	-	-	-	Light h	rown fine sandy SILT	
11312	2460	0	2460	0.59	35.12	Eight brown hine sandy oren		
			Av	erage Rate:	35.1	inches/hour		
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS		
TEST 3	0	24	-	-	-	Light h	rown fine sandy SILT	
12010	2940	0	2940	0.49	29.39	Light b	TOWN TIME Sandy OIL1	
			Av	erage Rate:	29.4	inches/hour		
			TIME					
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS		
TEST 4	0	24	-	-	-	Light h	rown fine sandy SILT	
12017	2880	0	2880	0.50	30.00	Light b	TOWN TIME Sandy SIET	
			_	erage Rate:	30.0	inches/hour		

Lowest Average Rate: 29.4 inches/hour

#### **INFILTRATION TESTS**

A-IT-09 performed in A-S-TP-09

PROJECT		Project Hudson		PROJECT NO. 151010101					
LOCATION 59 Steele Road, Hudson, NH				DATE 06/23/2020					
INSPECTOR Olivia Chasse				WEATHER Sunny, 80s°F					
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM					
	Start	10:09	24	Surface Elevation	Approx.	132.5	(NGVD29)		
	<b>End</b> 10:19 5			Top of Hole Elevation	Approx.	132.5	(NGVD29)		
		*presoak stopped	at 5 inches due to silting at bottom	Bottom of Hole Elevation	Approx.	130.5	(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 presoakedwith 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 all 24 inches was recorded. The tables below outline the calculations for determining the average rate in which the water dissipated. Test pit A-S-TP-09 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 C	ONDITIONS	
TEST 1	0	24	=	-	-	Grayish brown fine to med	lium SAND, some silt, trace fine	
1231 1	960	0	960	1.50	90.00	gravel		
			Av	erage Rate:	90.0	inches/hour		
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL C	ONDITIONS	
TEST 2	0	24	-	-	-	Grayish brown fine to medium SAND, some silt, trac		
12312	1260	0	1260	1.14	68.57		gravel	
			Av	erage Rate:	68.6	inches/hour		
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL C	ONDITIONS	
TEST 3	0	24	-	-	-	Grayish brown fine to med	dium SAND, some silt, trace fine	
12313	1380	0	1380	1.04	62.61	gravel		
			Av	erage Rate:	62.6	inches/hour		
			TIN AF			_		
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL C	ONDITIONS	
TEST 4	0	24	-	-	-	Grayish brown fine to med	lium SAND, some silt, trace fine	
12017	1680	0	1680	0.86	51.43		gravel	

Lowest Average Rate:	51.4	inches/hour	
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51.4

Average Rate:

inches/hour

#### INFILTRATION TESTS

A-IT-15 performed in A-S-TP-15

PROJECT		Project Hudson		PROJECT NO. 1510	151010101				
LOCATION		59 Steele Road,	Hudson, NH	<b>DATE</b> 6/5/2	6/5/2020				
INSPECTOR Taylor Sisti				WEATHER Sunny, 70s°F					
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM	1				
	Start	13:24	24	Surface Elevation	Approx.	137	(NGVD29)		
	End	13:27	0	Top of Hole Elevation	Approx.	134.5	(NGVD29)		
				Bottom of Hole Elevation	Approx.	132.5	(NGVD29)		

#### METHOD OF INFILTRATION TEST

A-S-TP-15 was advanced to a depth of about 2.5 feet below existing grades. 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 presoakedwith 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 every six inch drop to calculate the overall infiltration rate. The tables below outline the calculations for determining the average rate in which the water dissipated. Test pit A-S-TP-15 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
	0	24	-	-	-		
	20.6 18 20.6 17.48 1048.54						
TEST 1	55.7	12	35.1	10.26	615.38	Brown fine to medium SAND, trace silt	
	125.9	6	70.2	5.13	307.69		
	241.3	0	115.4	3.12	187.18	1	
			Av	erage Rate:	539.7	inches/hour	

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS
	0	24	-	-	-	
	15.9	18	15.9	22.64	1358.49	
TEST 2	42.6	12	26.7	13.48	808.99	Brown fine to medium SAND, trace silt
	86.5	7	43.9	6.83	410.02	
	133.7	2	47.2	6.36	381.36	
			Av	erage Rate:	739.7	inches/hour

NOTE: Bottom silted 2 inches, test ended when no water remained.

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CO	ONDITIONS
	0	24	-	-	-	Brown fine to medium SAND, trace silt	
	21.3	18	21.3	16.90	1014.08		
TEST 3	64.3	12	43	8.37	502.33		
	174.5	6	110.2	3.27	196.01		
	313.5	1	139	2.16	129.50		
			Av	erage Rate:	460.5	inches/hour	

NOTE: Bottom silted 1 inch, test ended when no water remained.

#### **INFILTRATION TESTS**

A-IT-15 performed in A-S-TP-15 (cont.)

	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	SOIL CONDITIONS	
	0	24	-	-	=		
47.6 18 47.6 7.56 453.78	453.78						
TEST 4	141.8	12	94.2	3.82	229.30	Brown fine to medium SAND, trace silt	
	331.2	6	189.4	1.90	114.04		
	609.7	0	278.5	1.29	77.56		
			Av	erage Rate:	218.7	inches/hour	

		WATER (IIV)	(SEC)	(114/14/114/	(IIV/IICCII)	
	0	24	-	-	-	
	47.6	18	47.6	7.56	453.78	1
ST 4	141.8	12	94.2	3.82	229.30	Brown fine to medium SAND, trace silt
	331.2	6	189.4	1.90	114.04	1
	609.7	0	278.5	1.29	77.56	
			A	verage Rate:		inches/hour
•	<del>_</del> _					
			Lowest A	verage Rate:	218.67	inches/hour

# <u>LANGAN</u>

#### **INFILTRATION TESTS**

A-IT-21 performed in A-S-TP-21

A-11-21 performed in A-3-11-21							
PROJECT	Pi	roject Hudson		PROJECT NO.	151010101		
LOCATION	59	9 Steele Road, F	ludson, NH	<b>DATE</b> 6/2	9/2020		
INSPECTOR	INSPECTOR Taylor Sisti			<b>WEATHER</b> Clo	udy, 70s°F		
PRESOAK	TI	ME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATE	JM		
St	ırt	8:52	24	Surface Elevation	n Approx.	115	(NGVD29)
E	nd	9:39	0	Top of Hole Elevation	n Approx.	114.0	(NGVD29)
		•		Bottom of Hole Elevation	n Approx.	112.0	(NGVD29)

#### METHOD OF INFILTRATION TEST

A-S-TP-21 was advanced to a depth of about 1 foot 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 A-S-TP-21 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 CONDITIONS	
TEST 1	0	24	-	-	-	Light brown sandy SILT, trace fine grave	
1201 1	3300	0	3300	0.44	26.18	Eight brown sand	ay ore i, trace fine graver
			Av	erage Rate:	26.2	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 sandy SILT, trace fine grave	
12012	3600	1	3600	0.38	23.00	Light brown sand	ay orer, trace fine graver
			Av	erage Rate:	23.0	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 sand	dy SILT, trace fine gravel
12013	3600	1	3600	0.38	23.00	Eight brown sand	ay orer, trace fine graver
			Av	erage Rate:	23.0	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 sand	dy SILT, trace fine gravel
12314	3600	1.5	3600	0.38	22.50	Light brown sand	ay Sici, trace fille graver

Lowest Average Rate:	22.5	inches/hour
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22.5

inches/hour

Average Rate:

# INFILTRATION TESTS A-IT-22 performed in A-S-TP-22 PROJECT Project Hudson PROJECT NO. 151010101

LOCATION		59 Steele Road, H	ludson, NH	<b>DATE</b> 6/29/	6/29/2020			
INSPECTOR		Taylor Sisti		<b>WEATHER</b> Cloudy, 70s°F				
PRESOAK		TIME	DEPTH OF WATER IN HOLE (INCH)	ELEVATION AND DATUM	1			
St	art	9:07	24	Surface Elevation	Approx.	114	(NGVD29)	
E	nd	9:27	0	Top of Hole Elevation	Approx.	112.0	(NGVD29)	
				Bottom of Hole Flevation	Annroy	110.0	(NGVD29)	

#### METHOD OF INFILTRATION TEST

A-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 A-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)	so	IL CONDITIONS
TEST 1	0	24	-	-	-	Light brown sandy SILT	
1231 1	1665	0	1665	0.86	51.89	Ligiti	biowii salidy SiEi
			Av	erage Rate:	51.9	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 sandy SILT	
ILUI Z	2065	0	2065	0.70	41.84		
	2003	, and the second					
	2003		Av	erage Rate:	41.8	inches/hour	
	2003			erage Rate:	41.8	inches/hour	
	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	erage Rate:  RATE (IN/MIN)	41.8 RATE (IN/HOUR)		IL CONDITIONS
TECT 2		DEPTH OF	TIME INTERVAL	RATE	RATE	so	
TEST 3	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC)	RATE (IN/MIN)	RATE (IN/HOUR)	so	IL CONDITIONS brown sandy SILT
TEST 3	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC) - 2557	RATE (IN/MIN)	RATE (IN/HOUR)	so	
TEST 3	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC) - 2557 Av	RATE (IN/MIN)  - 0.56	RATE (IN/HOUR) - 33.79	<b>SO</b> Light	
TEST 3	TIME (SEC)	DEPTH OF WATER (IN)	TIME INTERVAL (SEC) - 2557	RATE (IN/MIN)  - 0.56	RATE (IN/HOUR) - 33.79	SO Light inches/hour	
	TIME (SEC)  0 2557	DEPTH OF WATER (IN)  24  0  DEPTH OF	TIME INTERVAL (SEC) - 2557 Av TIME INTERVAL	RATE (IN/MIN)  - 0.56 erage Rate:	RATE (IN/HOUR) - 33.79 33.8 RATE	SO Light inches/hour	brown sandy SILT
TEST 3	TIME (SEC)  0 2557  TIME (SEC)	DEPTH OF WATER (IN)  24  0  DEPTH OF WATER (IN)	TIME INTERVAL (SEC) - 2557 Av TIME INTERVAL (SEC)	RATE (IN/MIN)  - 0.56 erage Rate:  RATE (IN/MIN)	RATE (IN/HOUR)  - 33.79 33.8  RATE (IN/HOUR)	SO Light inches/hour	brown sandy SILT

Lowest Average Rate:	29.8	inches/hour
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# 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

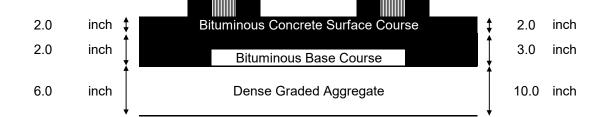
#### **Summary of Results**

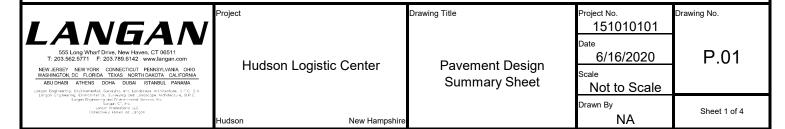
#### **Standard Section**

**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

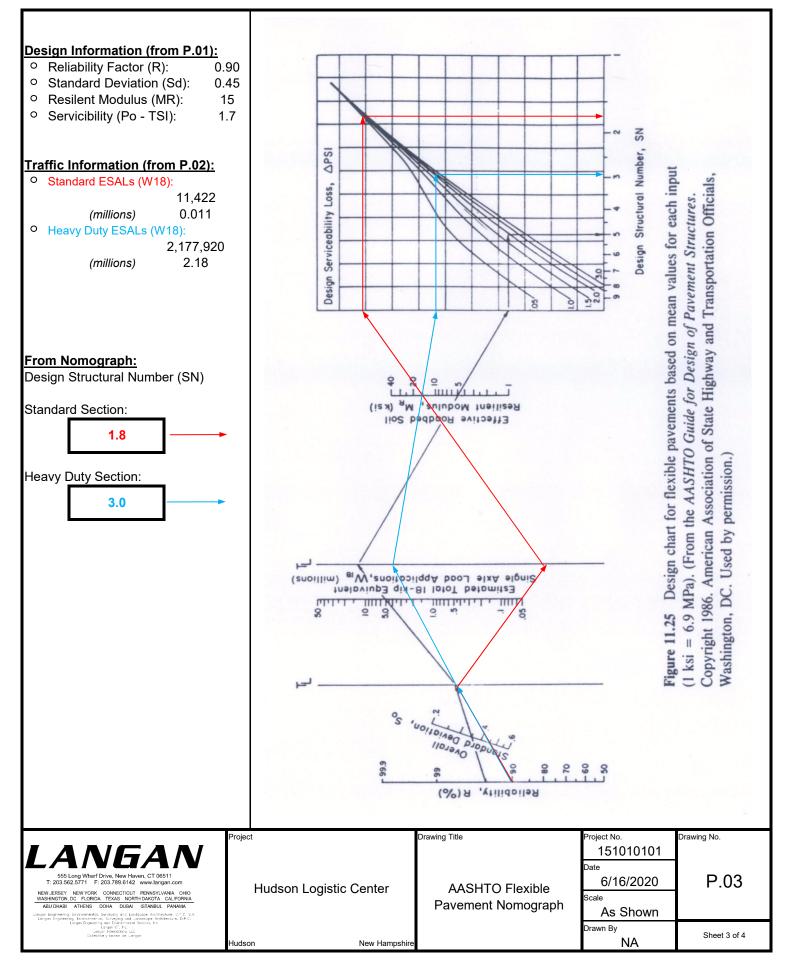
Standard Design ESAL: 11,422

#### 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 Contor		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	Largue Engineering and Environmental Services, Inc. Largue CT, Inc. Langue Teternationa LLC		Drawn By	Chart 2 of 4
Company with the Congan	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	7
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	Hudson 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 Servers, Irc. Langan C.T. Irc. Langan C.T. Irc. Langan Enternationa LLC			Drawn By	
Collective y known as Langon	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 17:12:30 GMT-0400 (Eastern Daylight Time)

#### **Project Description**

Project Name: Lot A - 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. 4.96 in. 5.00 in. 4.96 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

Spectrum Type:

Edge Support: Yes Macrofibers in Concrete: Nο

**SUBGRADE** 

CBR: 10 % Calculated MRSG Value 9,389 psi

#### **Project Level**

**TRAFFIC** ACI 330 Traffic Spectrum A

Design Life: 30 years

**USER DEFINED TRAFFIC** 

Trucks Per Day: 151

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

**GLOBAL** 

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

Avg Trucks/Day in Design Lane Over the Design Life: 151

Total Trucks in Design Lane Over the Design Life:

#### **Design Method**



#### **DESIGN SUMMARY REPORT FOR**

#### JOINTED-PLAIN CONCRETE PAVEMENT (JPCP)

#### **DATE CREATED:**

Mon Jul 13 2020 13:17:47 GMT-0400 (Eastern Daylight Time)

#### **Project Description**

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

Designer's Name: Route:

Project Description:

#### **Design Summary**

Doweled

Undoweled

Doweled

Undoweled

Recommended Design Thickness: Calculated Minimum Thickness:

5.75 in. 5.74 in. 6.00 in. 5.94 in.

Maximum Joint Spacing:

9 ft.

9 ft.

#### **Pavement Structure**

#### **SUBBASE**

Calculated Composite K-Value of Substructure:

490 psi/in

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: **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: 151

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

**GLOBAL** 

Yes

No

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

Avg Trucks/Day in Design Lane Over the Design Life: 151 Total Trucks in Design Lane Over the Design Life:

#### **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

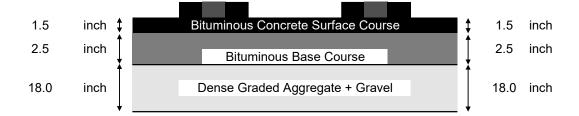
**CBR > 10** 

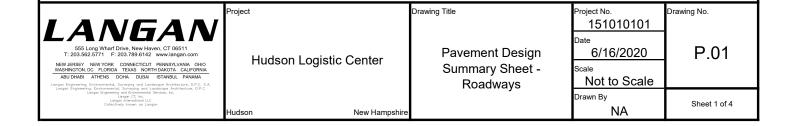
#### **Summary of Results**

#### 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	
			Date	
555 Long Wharf Drive, New Haven, CT 06511 T: 203.562.5771 F: 203.789.6142 www.langan.com	Hudoon Logistic Contor		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 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.			140t 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)

	<del> </del>	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			Date	
T: 203.562.5771 F: 203.789.6142 www.langan.com	Hudaan Lagistia Cantar	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.  Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C. S.A.		Calculation	As Shown	
Langan Engineering and Environmental Services, Inc. Langan CT, Inc. Langan CT, Inc. Langan International LLC			Drawn By	Sheet 4 of 4
Collectively known as Langan	Hudson New Hampshire		NA	Sneet 4 of 4