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REPORT ON

GEOTECHNICAL DATA REPORT
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
CONTRACT 2 DESIGN-BUILD PROJECT
PIN X731.64, CONTRACT D900051
BRONX, NEW YORK

by
Haley & Aldrich of New York
New York, New York

for
New York State Department of Transportation
Albany, New York

File No. 135202-004
June 2021

HALEY & ALDRICH OF NEW YORK
237 W 35th Street
16th Floor
New York, NY 10001
646.277.5685

29 June 2021
File No. 135202-004

New York State Department of Transportation
50 Wolf Road
Albany, New York 12205

Subject: Geotechnical Data Report
GT-02a Ramp BL – Westbound Bruckner Expressway to Leggett Avenue
Hunts Point Interstate Access Improvement Project - Contract 2 Design-Build Project
PIN X731.64, Contract D900051
Bronx, New York

Ladies and Gentlemen:

We are pleased to provide this Geotechnical Data Report (GDR) in accordance with the requirements of Part 3, Section 13, Geotechnics of the Contract Documents to support the design of Hunts Point Interstate Access Improvement Project, Contract 2 Design-Build Project.

We appreciate the opportunity to serve on your project team and look forward to supporting this work through final design and construction. Please contact us if you require additional information or wish to discuss the contents of this report.

Feel free to contact us if you have any comments or need additional information.

Sincerely yours,
HALEY & ALDRICH OF NEW YORK

Stefano Bruni, P.E.
Assistant Project Manager

Paul B. Pizzimenti, P.E.
Senior Associate

Edward M. Zamiskie Jr., P.E.
Partner | Lead Geotechnical Engineer

Enclosures

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HALEY & ALDRICH OF NEW YORK
237 W 35TH STREET
16TH FLOOR
NEW YORK, NY 10001
646.277.5685

SIGNATURE PAGE FOR

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HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT - CONTRACT 2
DESIGN-BUILD PROJECT
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BRONX, NEW YORK

PREPARED FOR

NEW YORK STATE DEPARTMENT OF TRANSPORTATION
ALBANY, NEW YORK

PREPARED BY:

Stefano Bruni, P.E.
Assistant Project Manager
Haley & Aldrich of New York

REVIEWED AND APPROVED BY:

Paul B. Pizzimenti, P.E.
Senior Associate
Haley & Aldrich of New York

Edward M. Zamiskie Jr., P.E.
Partner | Lead Geotechnical Engineer
Haley & Aldrich of New York

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1. Introduction

1.1 GENERAL

This Geotechnical Data Report (GDR) has been developed by Haley & Aldrich of New York (Haley & Aldrich) in accordance with the requirements outlined in Part 3 of Section 13, Geotechnics of Design-Build Contract Documents for the Hunts Point Interstate Access Improvement Project – Contract 2, Bronx, New York (Contract No. D900051), which is a design-build contract between the New York State Department of Transportation and the design-build team consisting of El Sol / DeFoe JV (JV) and Greenman-Pedersen, Inc. (GPI). Haley & Aldrich is a subconsultant to GPI and serves as the Lead Geotechnical Engineer for the design-build team.

The project site extends along Bruckner Expressway from approximately 0.8-mile to 1.6 miles east of the Major William Francis Deegan Expressway in Bronx, New York, as shown on the Project Locus on Figure 1. This report provides a factual accumulation of subsurface data collected within the limits of the ramp BL widening structure between Leggett Avenue and Barretto Street. A separate GDR has been developed for the ramp LB widening structure south of Leggett Avenue.

1.2 PROPOSED CONSTRUCTION

The Hunts Point, Contract 2 Project includes the construction of new exit and entrance ramps from the elevated southbound Bruckner Expressway to the at-grade Leggett Avenue between East 149th Street and Barretto Street in the Bronx, New York. Each ramp includes a widening structure of the existing Bruckner Expressway bridge deck, an independent elevated roadway structure, and an earth-filled ramp. The ramp BL structures will be supported on concrete piers supported on either footings bearing on rock, micro-piles, or driven steel piles. Abutments will be supported on micro-piles and retaining structures for the earth-filled ramps will be supported on-grade. The exit Ramp BL structure extends from approximately 280 feet (ft) northeast of Leggett Avenue to Barretto Street at the northern limit of the project.

1.3 PURPOSE AND SCOPE

This report has been prepared for specific application to New York State Department of Transportation's (NYSDOT's) PIN X731.64, Contract D900051 and conveys subsurface data based on the information collected from subsurface site explorations presented herein.

The purpose of the GDR is to convey the factual results of the supplemental subsurface explorations as performed to obtain additional soil and rock engineering data for the design of proposed foundation elements. The explorations supplement existing information provided in reference document *Geotechnical Data Report for the Hunts Point Interstate Access Improvements – Contract 2 PIN: X731.64* dated 7 August 2020 by URS/Goodkind & O'Dea, Inc. as provided with the Request for Proposals (RFP). Together with the existing data, the explorations meet the requirements of the NYSDOT's Geotechnical Design Manual (GDM) and American Association of State Highway and Transportation Officials (AASHTO) Load and Resistance Factor Design (LRFD) standards.

The scope of work performed was defined in the *Geotechnical Work Plan, Hunts Point Interstate Access Improvement Project – Contract 2 Design-Build Project, PIN X731.64 Contract D900051, Bronx, New York*,

by Haley & Aldrich dated 12 March 2021. The work was performed in general accordance with the NYSDOT's GDM and AASHTO LRFD standards.

The scope of our work included the following:

- Planning and monitoring a geotechnical subsurface exploration program;
- Coordinating and performing field operations including drilling of soil borings, rock corings, and installation and measurement of temporary observation wells;
- Observing and documenting the excavation of two test pits;
- Coordinating geotechnical and chemical laboratory testing programs; and
- Summarizing our subsurface explorations and data in this report.

A total of 36 new borings were completed within the limits of the ramp BL abutment and piers.

1.4 ELEVATION AND DATUM

Elevations herein are reported in ft and refer to the North American Vertical Datum of 1988 (NAVD88). The project horizontal datum is NAD83 New York State Planes Coordinate System, Long Island Zone in U.S. Survey Feet.

1.5 LIMITATIONS

This report has been prepared for specific application to NYSDOT PIN X731.64, Contract D900051 as it is currently planned. In the event that changes in the nature, design, or location of proposed construction occurs, the information contained in this report should not be considered valid unless the changes are reviewed, and this report is modified or verified in writing. The information presented in this report is based upon data obtained from referenced explorations. The nature and extent of variations between the explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of this report. This report is prepared for the exclusive use of the design-build team in connection with the geotechnical aspects of the project.

2. Field Exploration Program

2.1 SUBSURFACE EXPLORATIONS

Haley & Aldrich planned and conducted a subsurface exploration program to collect supplemental subsurface information to obtain data for the design of foundations supporting the proposed ramp BL walls, abutment, and piers. The program consisted of 37 test borings (designated DN-W-05 to DN-W-09 and DN-B-125 to DN-B-156) within the project limits, installing seven temporary observation wells, and performing geotechnical laboratory testing.

2.1.1 Test Borings

The test borings were drilled by Jersey Boring and Drilling Co., Inc. (JBD), of Fairfield, New Jersey from 31 March 2021 through 22 June 2021 under the observation of GPI and Haley & Aldrich field engineers, who documented and logged the soil and bedrock conditions encountered within the explorations and monitored groundwater levels while on site.

Test borings were drilled through overburden soils to depths of up to 45.5 ft below ground surface (bgs) using rotary methods and a temporary casing. All borings were hand-cleared for the first 6 ft as an added precaution to clear utilities.

Standard Penetration Tests (SPTs) were performed in the test borings continuously through the upper 12 ft of overburden and at 5-ft intervals beyond 12 ft by driving a 2-inch (in.) O.D. split spoon sampler 24 in. using a 140-pound auto hammer falling 30-in. in accordance with ASTM D1586. Soil samples were classified in accordance with the NYSDOT Geotechnical Engineering Bureau *Geotechnical Test Procedure GTP-2 – An Engineering Description of Soils Visual-Manual Procedure*. SPT sampling was advanced into decomposed rock, until the strength of the rock warranted coring.

Rock coring was performed using an “NX”-sized diamond core barrel which consists of an outer core barrel fitted with a cutting head and an inner recovery barrel that is free to rotate within the outer barrel as rock is cut and recovered. Rock samples were classified in accordance with the NYSDOT Geotechnical Bureau *Geotechnical Engineering Manual GEM-23 – Rock Core Evaluation Manual*. The borings were backfilled by JBD with drill cuttings upon completion.

The proposed test boring locations from the Geotechnical Work Plan were surveyed and marked out in the field by the JV. Borings DN-B-127 (Pier 110), DN-B-129 (Pier 114), and DN-B-130 (Pier 115A) were re-located due to the location of the existing buried 36-in. ConEdison gas line in the eastbound Bruckner Boulevard lanes in conjunction with the directions of ConEdison field representatives. Boring locations in the field were also adjusted due to traffic constraints to maintain safe work zones. Drill cuttings were returned to the boreholes upon completion by the drillers, and the JV was responsible for final hole closure and patching of pavements. As-drilled locations were determined by GPI and Haley & Aldrich in the field by measuring the distances from these surveyed locations or by measuring from existing site features. The locations of the as-drilled test borings are shown on the Figure 2 - Boring Location Plan. Test borings are summarized in Table 1, and test boring and rock core evaluation logs are presented in Appendix A. Rock core photographs are presented in Appendix B.

2.1.2 Temporary Observation Wells

Seven temporary observation wells were installed in completed borings at pier locations 119 to 125 where footings on rock are planned and open excavations will be required. The wells were installed to determine the approximate groundwater level that may be encountered during construction and to aid in the design of temporary excavation support. Temporary wells consisted of a 2-in.-diameter PVC pipe with a slotted screen, installed to the bottom of the open boreholes. Minimum 24-hour stabilized readings were recorded. PVC pipes were removed from the boreholes before final closure as described above.

2.1.3 Geotechnical Laboratory Testing

Geotechnical laboratory tests were performed by TerraSense Laboratories of Totowa, New Jersey and are summarized below and on Tables II and III. Laboratory test results are provided in Appendix C. Testing consisted of:

- Corrosivity Testing Suites – Three bulk samples were submitted and tested for pH, resistivity, sulfate content, and chloride content determinations.
- Rock Testing – 13 samples were submitted and tested for unconfined compression strength (UCS) testing in general accordance with ASTM D7012.

2.1.4 Test Pits

Historic drawings of the Pier 130 substructure did not definitively describe the foundation system that was installed. Since the loads on Pier 130 were subject to change due to proposed deck modifications, the type and nature of the foundations needed to be investigated in order. Two test pits were excavated adjacent to Pier 130 to observe the existing foundation system supporting Pier 130. The first test pit was excavated to the south of Pier 130 during the period of 21 to 22 April 2021 and the second test pit was excavated to the east during the period of 26 to 27 April 2021. The test pits were excavated by the JV and were approximately 15-ft-long, 10-ft-wide, and 14-ft-deep.

The pier was found to be supported on a pile cap. The top of the pile cap was approximately 7 ft below the existing grade, approximately 12.5-ft-long (parallel to the roadway) by 12-ft-wide (transverse to the roadway) by approximately 4-ft-thick. Six steel piles were exposed and were arranged in an implied regular 3 by 3 pattern (noting that three of the probable nine piles were not directly observed). The piles were wide-flanged sections and approximated to be 12BP53 H-Piles based on measured flange width and web dimension thickness of the pile flanges. The center-to-center spacing of the piles was approximately 4.25- to 5-ft and 4.5-ft, parallel and transverse to the roadway respectively, centered under the pile cap. Variability in spacing and plan rotation of the piles is assumed to be a function of the workmanship of the original installation. The existing piles did not appear to exhibit significant corrosion based on visual inspection. The soils at the pit walls were classified as fill consisting of decomposed bedrock. Groundwater was encountered at a depth of approximately 14 ft bgs. The test pits sketches and photo log are presented in Appendix D.

2.2 EXISTING SUBSURFACE EXPLORATIONS

Table IV provides a summary of the existing borings that were included in the reference document *Geotechnical Data Report* for the Hunts Point Interstate Access Improvements – Contract 2 PIN: X731.64

dated 7 August 2020 by URS/Goodkind & O'Dea, Inc. and are relied upon and made part of this report. Logs of the existing borings are presented in Appendix E.

3. Subsurface Conditions

3.1 SOIL AND BEDROCK

Generalized subsurface conditions encountered in the recent test borings are described below in order of increasing depth bgs. The logs depict subsurface conditions at the specific boring locations at the time designated on the logs. Subsurface conditions at other locations may differ from conditions occurring at these locations. Also, the passage of time may result in a change in the subsurface conditions at these locations. Strata are further described on the logs.

3.1.1 Overburden Soil

The following overburden strata were encountered in the following order:

Fill: Fill was encountered in every test boring and was between 2 ft and 25 ft deep. The Fill in the area of the Ramp BL retaining wall was typically very loose to loose silty SAND, or sandy SILT with varying amounts of gravel. Moving west, the gravel content increased and the soils were typically very loose to very dense gravelly SAND, or sandy GRAVEL with varying amounts of silt. Fill in the planned location of the BL abutment also presented a higher gravel content and was observed as very loose to very dense sandy GRAVEL with varying amounts of silt. Loose, sandy SILT and silty SAND was also noted. In the remaining areas, Fill was observed to be very loose to loose and dense to very dense sandy GRAVEL with varying amounts of silt, and silty SAND with varying amounts of GRAVEL. Typically the looser soils were encountered near the ground surface. Very loose to medium dense SILT with varying amounts of SAND and GRAVEL was also encountered at Piers 117, 125, 132, 133, BL-1, BL-2, BL-3, and BL-4.

Silt and Clay: SILT and CLAY was encountered below the Fill in near BL-2, BL-3, and BL-4 and near Piers 128, 129, and 132. The soils encountered near BL-2, BL-3, and BL-4 were generally medium dense Clayey SILT. The soils encountered near Piers 128, 129 and 132 were generally loose to medium dense Clayey SILT and soft to very Silty CLAY.

Glacial Deposits: Glacial Deposits were typically encountered below either the Fill or the SILT and CLAY and ranged between 2 ft and 12 ft in thickness. They were generally medium dense to very dense silty SAND with varying amounts of gravel, sandy SILT with varying amounts of gravel, gravelly SAND with varying amounts of SILT, and gravelly SILT with varying amounts of sand. A dense sandy GRAVEL was encountered near Pier 129.

Decomposed Bedrock: Decomposed Bedrock was encountered in many test borings with the exception of those located at the Ramp BL Ramp retaining wall, the BL Abutment, BL-2, Pier 121, and Pier 124. The Decomposed Bedrock ranged in thickness from 2 ft to 25 ft. Decomposed Bedrock was generally dense to very dense Silty SAND with varying amounts of gravel. Medium dense to very dense Sandy and Silty GRAVEL was also observed. Very loose to dense Sandy SILT and Clayey SILT was observed at Pier 127 and 128.

3.1.2 Bedrock

The project alignment lies mostly parallel to mapped thrust faults between several different layered and folded rock types. A Geologic Map included on Figure 3 (Baskerville, 1992) indicates the bedrock to be predominantly Manhattan Schist overlying Inwood Marble overlying Yonkers Gneiss. Existing boring data supports that the predominant rock type at the rock surface is marble in the southern limits of the site transitioning to schistose gneiss in the north. At the transition, a deep valley in the competent rock exists indicating a highly sheared thrust fault.

Bedrock was encountered from 5 ft to 45.5 ft. Recovery rates of 7 to 100 percent were observed, typically concentrated between 40 and 100 percent. Rock Quality Designation (RQD) ranged from 3 to 100 percent; however, they were generally above 60 percent in most cores. RQD is defined as the ratio of the sum of 4-in.-long or greater core pieces divided by the total length of the core run (in this case 5-ft). The rock color descriptions were variations of gray and brown. Moderately hard to hard, moderately weathered to fresh Schist and Schistose Gneiss was encountered within the borings assigned to Ramp BL Wing Wall. Moderately hard to very hard, moderately weathered to fresh Schistose Gneiss and Gneiss was encountered in the borings assigned to the BL abutment and BL-1 through BL-4. Explorations at Pier 115A presented moderately soft to very hard, slightly weathered to completely weathered Schist and Schistose Gneiss. For Piers 118 through 133 the bedrock was typically moderately hard to hard, slight weathered to moderately weathered Schist and Schistose Gneiss. Some of the Schist also presented with quartz inclusions. Soft to very hard, highly to completely weathered Schist was encountered at Pier 122. See rock core evaluation logs for more details on bedrock.

3.2 DRILLING OBSERVATIONS

Difficult drilling conditions were encountered during drilling of the test borings DN-B-143 (Pier 124), DN-B-145 and 146 (Pier 126), DN-B-151 (Pier 133), and DN-B-154 (BL-1). Observations are included in the notes on the test boring logs, and a summary is presented on Table V. Frequent rig “chatter” was observed in most borings throughout the ramp limits when drilling between sampling intervals which could be indicative of the presence of boulders, cobbles, gravels, and dense soils.

3.3 GROUNDWATER

Groundwater levels were measured during the drilling program in temporary wells installed after completion of test borings at BL Pier locations 119 through 125. Groundwater levels are presented on Table VI.

Area groundwater levels are commonly influenced by numerous factors including recent precipitation, surface runoff, local construction activity, leakage into and out of utilities and other infrastructure, and seasonal variations. Water is likely to perch over the rock surface following periods of heavy precipitation or rapid snowmelt or during seasonally wet times in the year and may be influenced by numerous factors including recent precipitation, surface runoff, local construction activity, and leakage into and out of utilities and other infrastructure.

References

1. *Geotechnical Data Report* for the Hunts Point Interstate Access Improvements – Contract 2 PIN: X731.64 dated 7 August 2020 by URS/Goodkind & O'Dea, Inc.

2. NYSDOT Geotechnical Engineering Bureau *Geotechnical Test Procedure GTP-2 – An Engineering Description of Soils Visual-Manual Procedure* dated August 2015.

3. NYSDOT Geotechnical Bureau *Geotechnical Engineering Manual GEM-23 – Rock Core Evaluation Manual*, dated August 2015.

4. "Bedrock and Engineering Geologic Maps of Bronx County and Parts of New York and Queens Counties, New York" by Charles A. Baskerville, 1992.

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TABLES

TABLE I
SUMMARY OF TEST BORINGS
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier/Abutment/Structure	Exploration Designation	Approx. Ground Surface Elev.	Total Depth (ft)	Thicknesses of Strata, and Depths to/ Elevations of Top of Strata											
				Fill	Silt and Clay			Glacial Soils			Decomposed Bedrock			Bedrock	
				Thickness (ft)	Depth to top of Stratum (ft)	Elev. of Top of Stratum	Thickness (ft)	Depth to top of Stratum (ft)	Elev. of Top of Stratum	Thickness (ft)	Depth to top of Stratum (ft)	Elev. of Top of Stratum	Thickness (ft)	Depth to top of Stratum (ft)	Elev. of Top of Stratum
BL Ramp Ret Wall	DN-W-05	31.0	35.0	25.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	25.0	6.0
BL Ramp Ret Wall	DN-W-06	31.5	37.0	25.0	N.E.	-	-	25.0	6.5	2.0	N.E.	-	-	27.0	4.5
BL Ramp Ret Wall	DN-W-07	31.0	31.0	15.0	N.E.	-	-	N.E.	-	-	15.0	16.0	6.0	21.0	10.0
BL Ramp Ret Wall	DN-W-08	30.0	39.5	20.0	N.E.	-	-	N.E.	-	-	20.0	10.0	9.5	29.5	0.5
BL Ramp Ret Wall	DN-W-09	31.0	55.5	25.0	25.0	6.0	3.0	28.0	3.0	12.0	40.0	-9.0	5.5	45.5	-14.5
BL Abutment	DN-B-125	31.0	47.0	15.0	5.0	16.0	5.0	N.E.	-	-	20.0	11.0	2.0	22.0	9.0
BL Abutment	DN-B-126	31.5	47.0	20.0	20.0	11.5	5.0	N.E.	-	-	25.0	6.5	2.0	27.0	4.5
BL Pier-1	DN-B-155	30.0	45.0	8.0	N.E.	-	-	N.E.	-	-	8.0	22.0	17.0	25.0	5.0
BL Pier-1	DN-B-154	30.5	45.0	20.0	N.E.	-	-	N.E.	-	-	20.0	10.5	5.0	25.0	5.5
BL Pier-2	DN-B-153	30.0	45.0	15.0	N.E.	-	-	15.0	15.0	5.0	N.E.	-	-	20.0	10.0
BL Pier-2	DN-B-152	30.0	45.0	15.0	N.E.	-	-	15.0	15.0	5.0	N.E.	-	-	20.0	10.0
BL Pier-2	DN-B-127	30.0	35.0	15.0	N.E.	-	-	15.0	15.0	5.0	N.E.	-	-	20.0	10.0
BL Pier-3	DN-B-156	28.5	43.0	15.0	N.E.	-	-	15.0	13.5	8.0	N.E.	-	-	23.0	5.5
BL Pier-3	DN-B-128	28.5	34.0	20.0	N.E.	-	-	20.0	8.5	4.0	N.E.	-	-	24.0	4.5
BL Pier-4	DN-B-129	29.0	47.0	8.0	N.E.	-	-	N.E.	-	-	8.0	21.0	19.0	27.0	2.0
BL Pier-4	DN-B-130	29.0	45.0	15.0	15.0	14.0	5.0	N.E.	-	-	20.0	9.0	5.0	25.0	4.0
BL Pier-115A	DN-B-131	30.0	40.0	15.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	15.0	15.0
BL Pier-115A	DN-B-132	30.0	41.0	6.0	N.E.	-	-	N.E.	-	-	6.0	24.0	10.0	16.0	14.0
BL Pier-117	DN-B-133	31.0	50.0	6.0	N.E.	-	-	6.0	25.0	14.0	N.E.	-	-	20.0	11.0
BL Pier-117	DN-B-134	31.5	50.0	15.0	N.E.	-	-	N.E.	-	-	15.0	16.5	5.0	20.0	11.5
BL Pier-118	DN-B-135	31.5	51.0	8.0	N.E.	-	-	N.E.	-	-	8.0	23.5	8.0	16.0	15.5
BL Pier-118	DN-B-136	31.5	50.0	8.0	N.E.	-	-	N.E.	-	-	8.0	23.5	7.0	15.0	16.5
BL Pier-119	DN-B-137	32.0	20.0	6.0	N.E.	-	-	N.E.	-	-	6.0	26.0	4.0	10.0	22.0
BL Pier-120	DN-B-138	32.5	16.0	6.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	6.0	26.5
BL Pier-121	DN-B-139	34.5	15.0	5.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	5.0	29.5
BL Pier-122	DN-B-140	35.0	20.0	5.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	5.0	30.0
BL Pier-122	DN-B-141	35.0	21.0	5.7	N.E.	-	-	N.E.	-	-	5.7	29.3	0.3	6.0	29.0
BL Pier-123	DN-B-142	36.5	20.0	4.0	N.E.	-	-	N.E.	-	-	4.0	32.5	6.0	10.0	26.5
BL Pier-124	DN-B-143	37.0	26.0	6.0	N.E.	-	-	6.0	31.0	5.0	N.E.	-	-	11.0	26.0
BL Pier-125	DN-B-144	38.0	25.0	6.0	N.E.	-	-	6.0	32.0	2.0	8.0	30.0	2.0	10.0	28.0
BL Pier-126	DN-B-145	37.5	40.0	8.0	N.E.	-	-	8.0	29.5	7.0	15.0	22.5	5.0	20.0	17.5
BL Pier-126	DN-B-146	37.8	47.0	8.0	N.E.	-	-	N.E.	-	-	8.0	29.8	14.0	22.0	15.8
BL Pier-127	DN-B-147	37.3	36.0	9.0	N.E.	-	-	N.E.	-	-	9.0	28.3	17.0	26.0	11.3
BL Pier-128	DN-B-148	37.3	43.0	10.0	N.E.	-	-	N.E.	-	-	10.0	27.3	18.0	28.0	9.3
BL Pier-129	DN-B-149	38.5	37.0	15.0	N.E.	-	-	15.0	23.5	5.0	20.0	18.5	7.0	27.0	11.5
BL Pier-132	DN-B-150	42.0	29.0	19.0	N.E.	-	-	N.E.	-	-	N.E.	-	-	19.0	23.0
BL Pier-133	DN-B-151	44.0	32.0	7.0	N.E.	-	-	7.0	37.0	13.0	20.0	24.0	2.0	22.0	22.0

Notes:
1. Ground surface elevations estimated from the elevations reported on the existing borings from the reference document "Geotechnical Data Report" for the Hunts Point Interstate Access Improvements – Contract 2 PIN: X731.64 dated 7 August 2020 by URS/Goodkind & O'Dea, Inc.
2. Elevations are in feet and are based on the North American Vertical Datum of 1988 (NAVD88).
3. Thicknesses and elevations include surficial pavements, which where generally up to 1-ft thick.
4. N.E. indicates soil type "not encountered".

TABLE II
SUMMARY OF GEOTECHNICAL LABORATORY TESTING - SOIL
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier / Abutment / Structure	Boring No.	Sample No.	Depth (ft)	Tests				
				Moisture Content (ASTM D2216)	Grain Size Analysis with Hydrometer (ASTM D422)	Atterberg Limits (ASTM D4318)	Organic Content (ASTM D2974)	Corrosivity Suite (ASTM G57)
BL Pier-4	DN-B-129	J4, J5, J6, J7	6 - 17	X				X
BL Pier-128	DN-B-148	J2, J3, J4, J5	6 - 17	X				X
BL Pier-1	DN-B-154	J4, J5, J6, J7	6 - 17	X				X

TABLE III
SUMMARY OF GEOTECHNICAL LABORATORY TESTING - ROCK
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier / Abutment / Structure	Boring No.	Run No.	Depth (ft)	Tests	
				Unconfined Compression with Estimated Elastic Modulus (ASTM D2216)	Unconfined Compression with Measured Elastic Modulus (ASTM D2216)
BL Pier-4	DN-B-129	R1	27.1 - 27.5	X	
BL Pier-4	DN-B-130	R3	35.1 - 35.5	X	
BL Pier-115A	DN-B-131	R1	16.4 - 16.8	X	
BL Pier-117	DN-B-134	R2	26.7 - 28.1	X	
BL Pier-118	DN-B-135	R2	21.7 - 22.1		X
BL Pier-118	DN-B-136	R1	18.35 - 18.75		X
BL Pier-122	DN-B-141	R1	8.2 - 8.6	X	
BL Pier-123	DN-B-142	R1	11.2 - 11.6	X	
BL Pier-126	DN-B-145	R2	23.05 - 23.45	X	
BL Pier-126	DN-B-146	R2	29.4 - 29.8		X
BL Pier-128	DN-B-148	R1	28.05 - 28.45	X	
BL Pier-132	DN-B-150	R1	21.3 - 21.7	X	
BL Pier-133	DN-B-151	R1	22.8 - 23.2	X	

TABLE IV
SUMMARY OF EXISTING BORINGS
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier/Abutment/Structure	Exploration Designation	Ground Surface Elev.	Total Depth (ft)	Depth Rock (ft)	Elev. of Top of Rock	Rock Cored (ft)
BL Ramp Ret Wall	DN-B-32	32.2	57.0	47.0	-14.8	10.0
BL Pier-1	DN-B-33	31.2	40.0	30.0	1.2	10.0
BL Pier-2	DN-B-34	29.9	37.0	27.0	2.9	10.0
BL Pier-3	DN-B-35	28.9	40.0	30.0	-1.1	10.0
BL Pier-4	DN-B-36	28.8	28.0	18.0	10.8	10.0
BL Pier-115A	DN-B-37	29.8	25.0	15.0	14.8	10.0
BL Pier-117	DN-B-38	31.4	32.0	22.0	9.4	10.0
BL Pier-118	DN-B-39	31.7	28.0	18.0	13.7	10.0
BL Pier-119	DN-B-40	32.0	17.0	7.0	25.0	10.0
BL Pier-120	DN-B-41	32.6	18.0	8.0	24.6	10.0
BL Pier-121	DN-B-42	34.4	18.0	8.0	26.4	10.0
BL Pier-123	DN-B-43	36.3	17.0	7.0	29.3	10.0
BL Pier-124	DN-B-44	37.2	23.0	13.0	24.2	10.0
BL Pier-125	DN-B-45	37.9	20.0	10.0	27.9	10.0
BL Pier-126	DN-B-46	37.6	25.0	15.0	22.6	10.0
BL Pier-127	DN-B-47	37.8	30.0	20.0	17.8	10.0
BL Pier-128	DN-B-48	37.8	40.0	30.0	7.8	10.0
BL Pier-129	DN-B-49	38.5	32.0	22.0	16.5	10.0
BL Pier-132	DN-B-52	42.5	35.0	25.0	17.5	10.0
BL Pier-133	DN-B-53	44.6	35.0	25.0	19.6	10.0

Notes:
1. Elevations in are in feet and are based on the North American Vertical Datum of 1988 (NAVD88).

TABLE V
SUMMARY OF DRILLING OBSERVATIONS
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier / Abutment / Structure	Existing Test Borings	New Test Boring(s)	Drilling Observations / Notes
BL Ramp Ret Wall	DN-B-32	DN-W-05	
		DN-W-06	
		DN-W-07	- Difficult drilling conditions encountered from approximately 17 to 20 ft.
		DN-W-08	
		DN-W-09	
BL Abutment	DN-B-33	DN-B-125	
		DN-B-126	
BL Pier-1	-	DN-B-155	
		DN-B-154	- Difficult drilling conditions encountered from approximately 12 to 15 ft, 17 to 19 ft.
BL Pier-2	DN-B-34	DN-B-153	- Difficult drilling conditions encountered from approximately 1 to 10 ft.
		DN-B-152	
		DN-B-127	
BL Pier-3	DN-B-35	DN-B-156	
		DN-B-128	
BL Pier-4	DN-B-36	DN-B-129	
		DN-B-130	
BL Pier-115A	DN-B-37	DN-B-131	
		DN-B-132	
BL Pier-117	DN-B-38	DN-B-133	
		DN-B-134	
BL Pier-118	DN-B-39	DN-B-135	
		DN-B-136	
BL Pier-119	DN-B-40	DN-B-137	
BL Pier-120	DN-B-41	DN-B-138	
BL Pier-121	DN-B-42	DN-B-139	
BL Pier-122	-	DN-B-140	
		DN-B-141	
BL Pier-123	DN-B-43	DN-B-142	
BL Pier-124	DN-B-44A	DN-B-143	- Difficult drilling conditions encountered from approximately 4 to 6 ft.
BL Pier-125	DN-B-45	DN-B-144	
BL Pier-126	DN-B-46	DN-B-145	- Difficult drilling conditions encountered from approximately 10 to 12 ft. Rock core retrieved approximately 12" of rock.
		DN-B-146	- Difficult drilling conditions encountered from approximately 17 to 19 ft.
BL Pier-127	DN-B-47	DN-B-147	
BL Pier-128	DN-B-48	DN-B-148	
BL Pier-129	DN-B-49	DN-B-149	
BL Pier-132	DN-B-52	DN-B-150	
BL Pier-133	DN-B-53	DN-B-151	- Difficult drilling conditions encountered from approximately 8 to 10 ft. Rock core retrieved 4 pieces totaling 9".

Note: Frequent drill rig chatter was observed while drilling between sampling intervals and can be indicative of cobbles, gravels, and dense soils, but did not obstruct the drilling operation.

TABLE VI
GROUNDWATER LEVELS
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT
PIN X731.64
CONTRACT D900051
BRONX, NEW YORK

Pier	Boring No.	Dates of Observations	Ground Surface El. (approx.)	Depth Below Ground Surface (ft)	Groundwater El. (approx.)
BL-119	DN-B-137	4/20/2021-4/26/2021	32.0	5.7 to 7.4	26.3 to 24.6
BL-120	DN-B-138	4/20/2021-4/26/2022	32.5	6.0	26.5
BL-121	DN-B-139	4/22/2021-4/26/2021	34.5	1.8 to 2.6	32.7 to 31.9
BL-122	DN-B-141	4/20/2021-4/26/2021	35.0	2.9 to 5.1	32.1 to 29.9
BL-123	DN-B-142	4/21/2021-4/26/2021	36.5	6.8 to 7.3	29.7 to 29.2
BL-124	DN-B-143	4/21/2021-4/26/2022	37.0	5.2 to 9.2	31.8 to 27.8
BL-125	DN-B-144	4/22/2021-4/26/2021	38.0	10.6 to 10.8	27.4 to 27.2

FIGURES

SITE COORDINATES: 40°48'46"N, 73°53'53"W

MAP SOURCE: USGS

HALEY ALDRICH

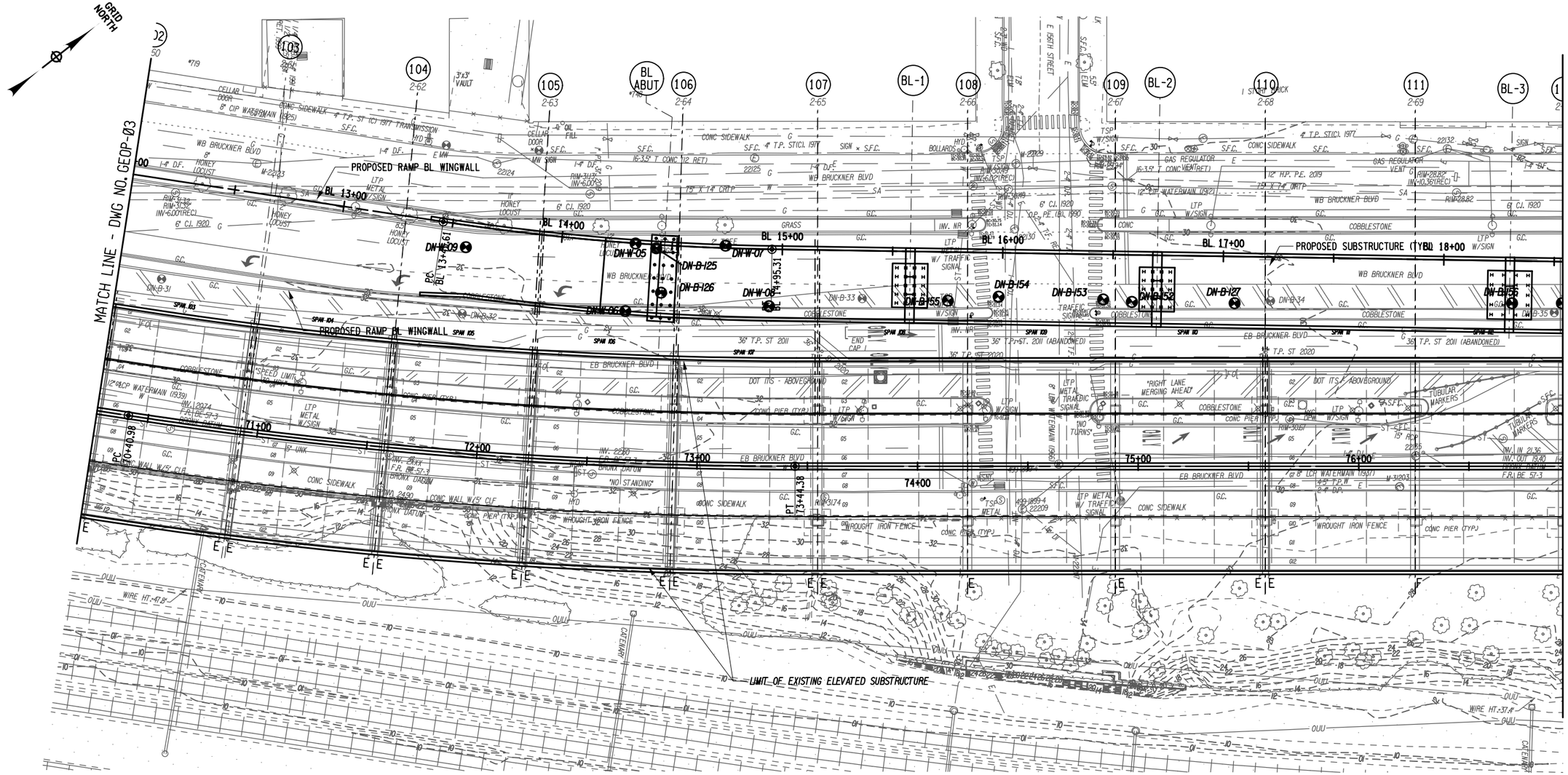
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT - CONTRACT 2
PIN X731.64, CONTRACT D90051
BRONX, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 INCH = 2,000 FEET
JUNE 2021

FIGURE 1

135202_003_LOCUS HALEYALDRICHISBRUNI



25 0 25 50 75 100'

1"=50'

NOTE:
EXISTING FACILITIES WITHIN THE VICINITY OF THE PROJECT TO BE SUPPORTED AND PROTECTED.

THE EXISTING UTILITY INFORMATION SHOWN ON THESE PLANS WAS DERIVED FROM EXISTING NYSDOT AS-BUILTS AND/OR UTILITY COMPANY PLATES OR RECORDS. THIS INFORMATION IS DESIGNATED AS QUALITY LEVEL D (QLD), UNLESS OTHERWISE INDICATED ON THE PLANS.

UTILITY LEGEND:

- E — ELECTRIC
- FO — FIBER OPTIC
- F — FIRE DEPT. COMMUNICATIONS
- G — GAS
- T — TELEPHONE
- SA — SANITARY OR COMBINED SEWER
- ST — STORM SEWER
- W — WATER

LEGEND:

- DN-B-109 — GEOTECHNICAL BORING LOCATION (BY DESIGN BUILDER)
- DN-B-22 — GEOTECHNICAL BORING LOCATION (BY NYSDOT)

HALEY ALDRICH

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: REGION:

PIN | BRIDGES | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BORING LOCATION PLAN

CONTRACT NUMBER

DRAWING NO. GEOP-04

SHEET NO. 4

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

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JOB MANAGER
DESIGN SUPERVISOR

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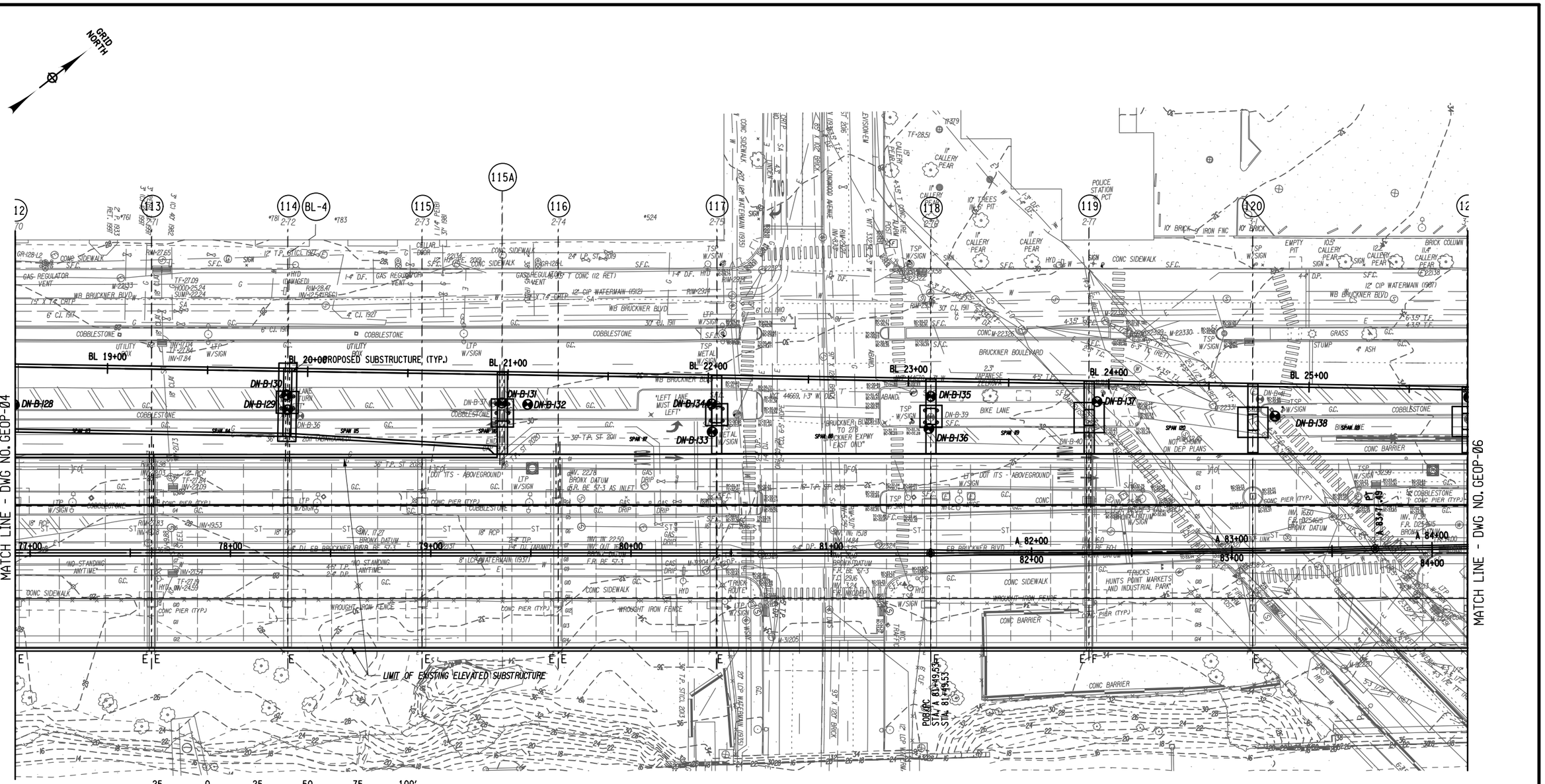

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1"=50′

NOTE:
EXISTING FACILITIES WITHIN THE VICINITY OF THE PROJECT TO BE SUPPORTED AND PROTECTED.

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- W — WATER

LEGEND:

- DN-B-109 — GEOTECHNICAL BORING LOCATION (BY DESIGN BUILDER)
- DN-B-22 — GEOTECHNICAL BORING LOCATION (NYSDOT)

HALEY ALDRICH

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: REGION:

PIN | BRIDGES | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BORING LOCATION PLAN

CONTRACT NUMBER

DRAWING NO. GEOP-05
SHEET NO. 5

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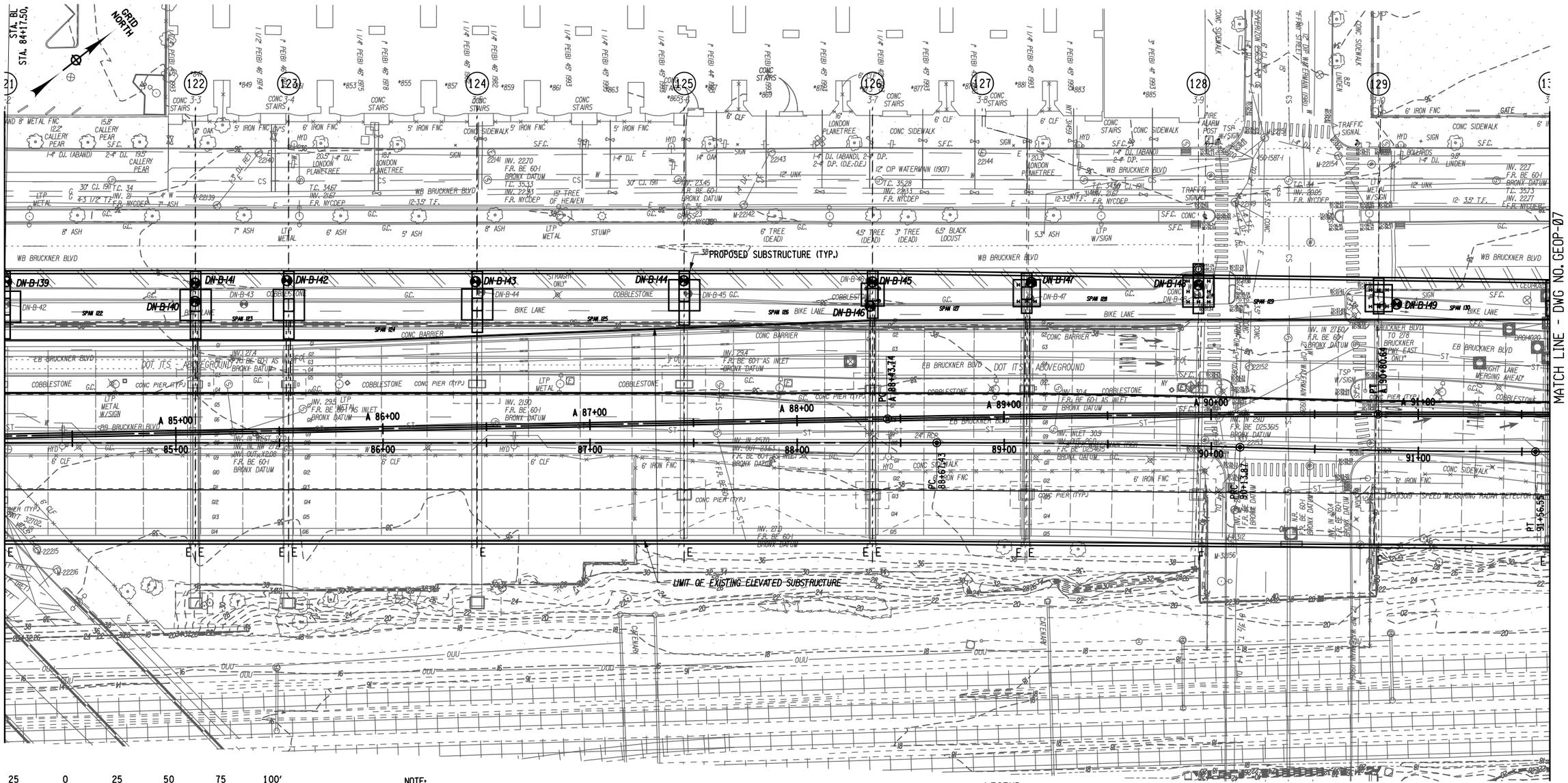

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1"=50'

NOTE:
EXISTING FACILITIES WITHIN THE VICINITY OF THE PROJECT TO BE SUPPORTED AND PROTECTED.

THE EXISTING UTILITY INFORMATION SHOWN ON THESE PLANS WAS DERIVED FROM EXISTING NYSDOT AS-BUILTS AND/OR UTILITY COMPANY PLATES OR RECORDS. THIS INFORMATION IS DESIGNATED AS QUALITY LEVEL D (QLD), UNLESS OTHERWISE INDICATED ON THE PLANS.

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- ST — SANITARY OR COMBINED SEWER
- ST — STORM SEWER
- W — WATER

LEGEND:

- DN-B-109 — GEOTECHNICAL BORING LOCATION (BY DESIGN BUILDER)
- DN-B-22 — GEOTECHNICAL BORING LOCATION (NYSDOT)

HALEY ALDRICH

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:		PIN	BRIDGES	CULVERTS	ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED	CONTRACT NUMBER
	COUNTY: REGION:				BORING LOCATION PLAN	DRAWING NO. GEOP-06 SHEET NO. 6

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

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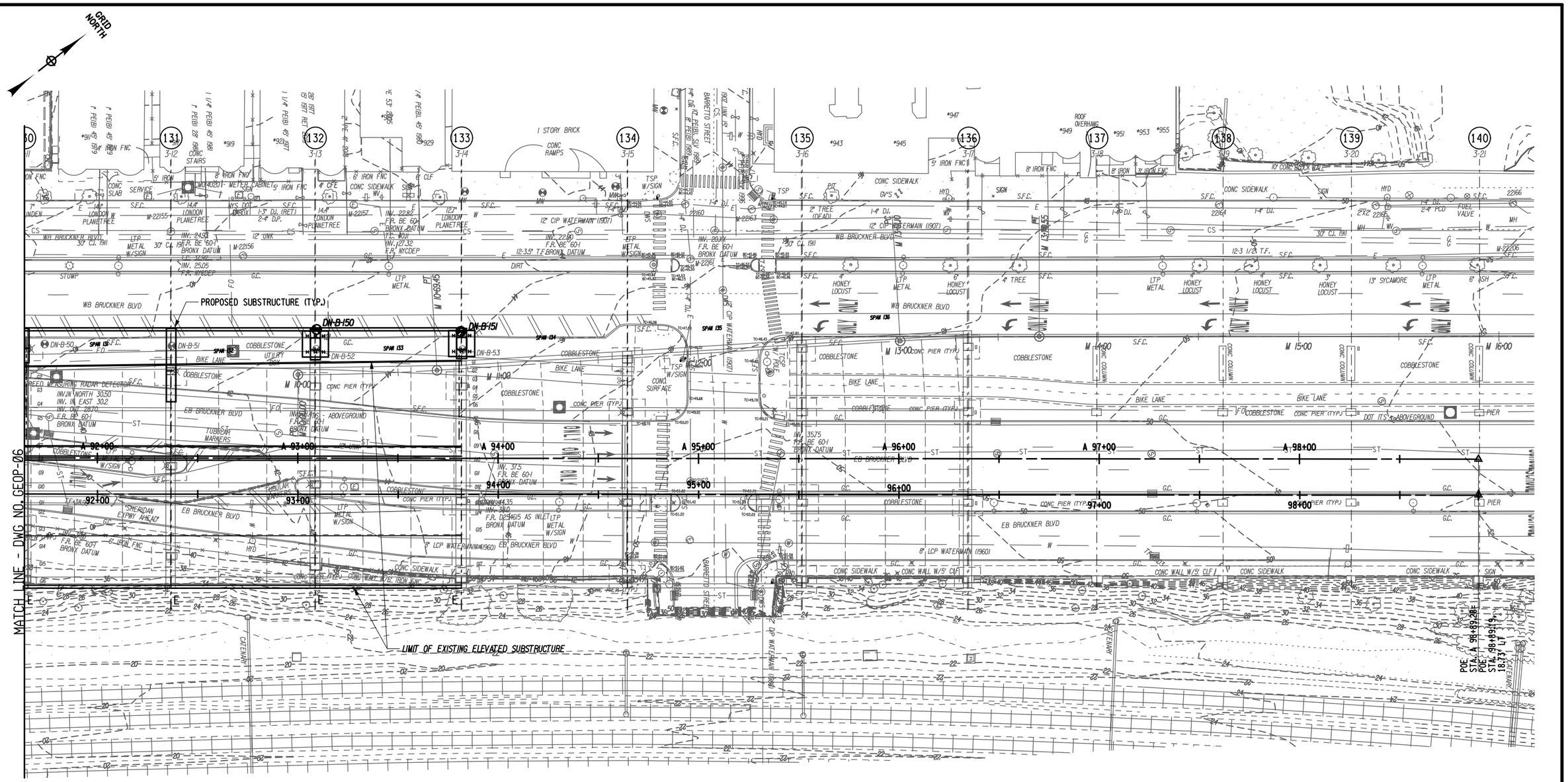

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1"=50'

NOTE:
EXISTING FACILITIES WITHIN THE VICINITY OF THE PROJECT TO BE SUPPORTED AND PROTECTED.

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- F - FIRE DEPT. COMMUNICATIONS
- G - GAS
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- SA - SANITARY OR COMBINED SEWER
- ST - STORM SEWER
- W - WATER

LEGEND:

DN-B-109 GEOTECHNICAL BORING LOCATION (BY DESIGN BUILDER)

DN-B-22 GEOTECHNICAL BORING LOCATION (NYSDOT)

HALEY ALDRICH

AFFIX SEAL: ON:	ALTERED BY: ON:

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

COUNTY: REGION:

PIN | BRIDGES | CULVERTS

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

BORING LOCATION PLAN

CONTRACT NUMBER

DRAWING NO. GEOP-07

SHEET NO. 7

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER
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JOB MANAGER
DESIGN SUPERVISOR

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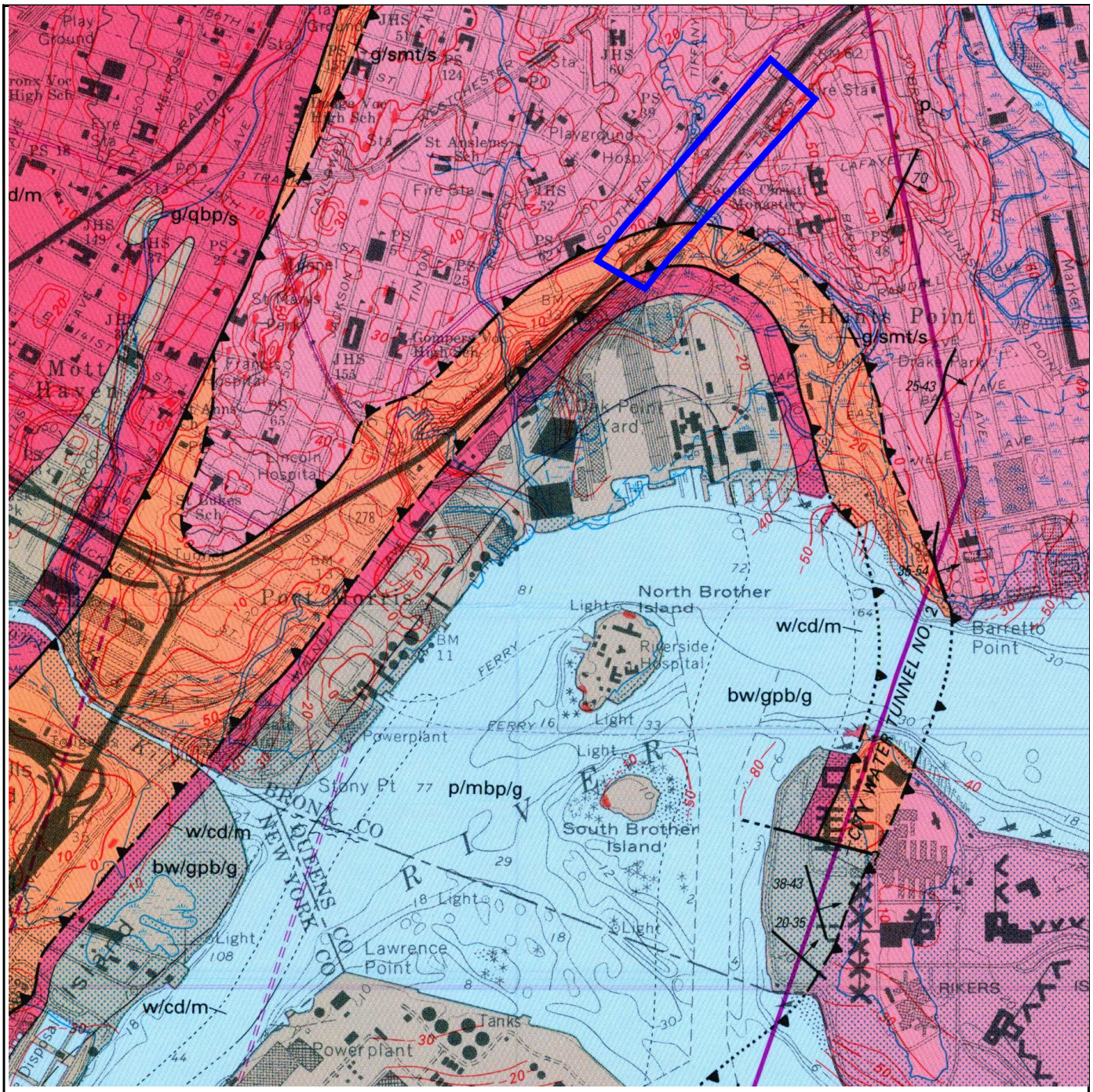

g/smt/s	Gray sillimanite-muscovite-tourmaline schist (Manhattan Schist)
g/pqm/s	Gray plagioclase-quartz-muscovite schist (Walloomsac Formation)
w/cd/m	White calcite-dolomite marble (Inwood Marble and marbles interlayered with units of the Fordham Gneiss)
p/qpb/g	Pink quartz-plagioclase-biotite gneiss (Yonkers Gneiss)

HALEY ALDRICH

HUNTS POINT INTERSTATE ACCESS IMPROVEMENT PROJECT - CONTRACT 2
PIN X731.64, CONTRACT D90051
BRONX, NEW YORK

GEOLOGIC MAP

JUNE 2021

FIGURE 3

APPENDIX A

Test Boring Logs and Rock Core Evaluation Logs

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 05
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-05
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,862.637 (E) 1,012,709.248 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-May-2021 **DATE FINISH** 13-May-2021

CASING	**O. D.**	4-1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1-3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	(M-NPL)
		J1						(1.00) Brown to Gray to White Sandy GRAVEL (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J3						(4.00) Similar to J2	(M-NPL)
	5.0								
		J4	4	2	2	1		(6.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J5	1	11	25	9		(8.00) Brown to Orange-Brown to Gray Sandy SILT, Gravelly (FILL)	(M-LPL)
	10.0								
		J6	4	WOH	1	2		(10.00) Brown Sandy SILT (FILL)	(M-LPL)
	15.0								
		J7	10	6	7	5		(15.00) Brown to Gray to Tan to White Sandy GRAVEL (FILL)	(M-NPL)
	20.0								
		J8	1	2	7	12		(20.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-LPL)
								See Note 3	
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 05
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-05
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,862.637 (E) 1,012,709.248 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-May-2021 **DATE FINISH** 13-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" to 30'0" ROCK REC. 58" 97%, 14 pieces, intensely to moderately fractured
	30.0							
		R2						(30.00) Run #2 Drilled from 30'0" to 35'0" ROCK REC. 60" 100%, 12 pieces, intensely to moderately fractured
	35.0							

BOTTOM OF HOLE AT 35.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Hard drilling encountered at appoximately 23 ft, likely decomposed bedrock.
4. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-W-05

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 06
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-06
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 235,840.093 (E) 1,012,730.530 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-May-2021 **DATE FINISH** 11-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.10) Brown to Gray Sandy GRAVEL, Silty (FILL)	(M-NPL)
		J2						(2.00) Similar to J1	(M-NPL)
	5.0	J3						(4.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J4	3	3	2	2		(6.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	10.0	J5	3	3	5	6		(8.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	15.0	J6	WOH	1	1	3		(10.00) Light Brown to Brown Silty SAND (FILL)	(M-NPL)
	20.0	J7	2	1	3	6		(15.00) Brown to Gray Sandy SILT, Gravelly (FILL)	(M-LPL)
	25.0	J8	3	4	2	2		(20.00) Brown Sandy SILT (FILL)	(M-LPL)

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-W-06

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 06
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-06
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 235,840.093 (E) 1,012,730.530 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-May-2021 **DATE FINISH** 11-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	29	41	100/4"			(25.00) Brown to Orange-Brown to Gray Gravelly SAND, Decomposed Bedrock in Spoon Tip (GLACIAL SOILS) (M-NPL)
		R1						(27.00) Run #1 Drilled from 27'0" to 32'0" ROCK REC. 50" 83%, 11 pieces and fragments, intensely fractured
	30.0							
		R2						(32.00) Run #2 Drilled from 32'0" to 37'0" ROCK REC. 55" 92%, 12 pieces, intensely to moderately fractured
	35.0							

BOTTOM OF HOLE AT 37.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-W-06

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 07
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-07
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,894.171 (E) 1,012,735.204 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-May-2021 **DATE FINISH** 14-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	
		J1						(0.80) Brown to Gray Sandy GRAVEL, Silty, Several Large Cobbles (FILL)	
		J2						(2.00) Brown to Gray Sandy GRAVEL, Silty, Several Large Cobbles (FILL)	
	5.0	J3						(4.00) Brown to Orange-Brown to Gray Silty SAND, Gravelly (FILL)	
		J4	8	4	2	1		(6.00) Brown to Orange-Brown to Gray Gravelly SAND, Silty (FILL)	(M-NPL)
	10.0	J5	3	4	5	8		(8.00) Brown to Gray Gravelly SAND, Silty (FILL)	(M-NPL)
	15.0	J6	3	4	5	8		(10.00) Gray to Brown Sandy GRAVEL, Silty (FILL)	(M-NPL)
	20.0	J7	38	56	63	61		(15.00) Brown to Gray Sandy GRAVEL (DECOMPOSED BEDROCK) See Note 3	(M-NPL)
		J8	100/3"					(20.00) Gray to Brown to Tan Sandy GRAVEL, Silty, Gravel Pieces Appear to be Fractured Bedrock (DECOMPOSED BEDROCK)	(M-NPL)
	25.0	R1						(21.00) Run #1 Drilled from 21'0" to 26'0" ROCK REC. 57" 95%, 7 pieces and fragments, intensely to moderately fractured	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-W-07

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 07
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-07
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,894.171 (E) 1,012,735.204 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-May-2021 **DATE FINISH** 14-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(26.00) Run #2 Drilled from 26'0" to 31'0" ROCK REC. 58" 97%, 10 pieces, intensely to moderately fractured
	30.0							

BOTTOM OF HOLE AT 31.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Difficult drilling conditions encountered from approximately 17 to 20 ft bgs.
4. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-W-07

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 08
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-08
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 235,892.738 (E) 1,012,768.956 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 12-May-2021 **DATE FINISH** 12-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	
		J1						(1.00) No Recovery	
		J2						(2.00) No Recovery	
		J3						(4.00) No Recovery	
	5.0								
		J4	WOH	WOH	3	2		(6.00) Dark Brown to Black GRAVEL, Sand (FILL)	(W-NPL)
		J5	1	3	5	6		(8.00) Tan-Brown Silty SAND (FILL)	(W-NPL)
	10.0								
		J6	25	40	35	50		(10.00) Red-Brown to Gray SAND, Gravel, Silt (FILL)	(W-NPL)
	15.0								
		J7	6	6	9	25		(15.00) Brown to Red-Brown Silty SAND (FILL)	(W-NPL)
	20.0								
		J8	28	38	50/3"			(20.00) Brown to Gray SAND, Gravelly, Silty (DECOMPOSED BEDROCK)	(M-NPL)
	25.0								

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DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-W-08

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 08
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-08
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 235,892.738 (E) 1,012,768.956 **DATUM** NAD83
DATE START 12-May-2021 **DATE FINISH** 12-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	50/3"					(25.00) Tan to Dark Gray SAND (DECOMPOSED BEDROCK) (M-NPL)
	30.0	R1						(29.50) Run #1 Drilled from 29'6" to 34'6" ROCK REC. 60" 100%, 7 pieces and fragments, moderately to slightly fractured
	35.0	R2						(34.50) Run #2 Drilled from 34'6" to 39'6" ROCK REC. 60" 100%, 8 pieces and fragments, moderately fractured

BOTTOM OF HOLE AT 39.50 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 09
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-09
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,801.038 (E) 1,012,663.130 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-Jun-2021 **DATE FINISH** 01-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	
		J1						(0.80) Brown to Gray to Tan Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Similar to S1, contains 2 6-in. cobbles (FILL)	(M-NPL)
		J3						(4.00) Brown to Gray Sandy GRAVEL, Silty (FILL)	(M-NPL)
	5.0								
		J4	4	4	3	2		(6.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J5	5	6	5	6		(8.00) Brown to Gray Gravelly SAND, Silty (FILL)	(M-NPL)
	10.0								
		J6	3	3	1	2		(10.00) Light Brown to Brown to Gray Silty SAND (FILL)	(M-NPL)
	15.0								
		J7	10	12	7	8		(15.00) Gray to Brown Sandy GRAVEL, Gravel Piece Appears to be Fractured Bedrock (FILL)	(M-NPL)
		J8	7	9	9	23		(17.00) Gray to Brown Sandy GRAVEL, Silty, Gravel Pieces Appear to be Fractured Bedrock (FILL)	(M-NPL)
	20.0								
		J9	3	4	10	4		(20.00) Brown to Gray to Tan to White Sandy GRAVEL, Silty, Gravel Pieces Appear to be Fractured Bedrock (FILL)	(M-NPL)
		J10	9	11	11	15		(22.00) Gray to Brown Sandy SILT, Gravelly (FILL)	(M-LPL)
	25.0								

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DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 09
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-09
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,801.038 (E) 1,012,663.130 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-Jun-2021 **DATE FINISH** 01-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J11	4	3	3	14		(25.00) Gray Silty CLAY, Sandy to Gray GRAVEL (SILT and CLAY)	(M-PL-NPL)
		J12	5	3	7	20		(27.00) Gray Silty CLAY (SILT and CLAY)	(M-NPL)
	30.0							(28.00) Orange-Brown to Brown Silty SAND (GLACIAL SOILS)	(M-NPL)
		J13	35	35	46	43		(30.00) Brown to Tan Silty SAND (GLACIAL SOILS)	(M-NPL)
	35.0								
		J14	69	40	44	41		(35.00) Brown to Orange-Brown Gravelly SAND, Silty (GLACIAL SOILS)	(M-NPL)
	40.0								
		J15	100/2"					(40.00) Gray to Orange-Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
								See Note 3	
	45.0								
		J16	100/0"					(45.00) No Recovery, Refusal at 45 ft due to likely competent bedrock	
		R1						(45.50) Run #1 Drilled from 45'6" to 50'6" ROCK REC. 56" 93%, 7 pieces and fragments, intensely to moderately fractured	
	50.0								

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DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 09
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-W-09
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,801.038 (E) 1,012,663.130 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-Jun-2021 **DATE FINISH** 01-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0							
		R2						(50.50) Run #2 Drilled from 50'6" to 55'6" ROCK REC. 60" 100%, 9 pieces and fragments, moderately fractured
	55.0							

BOTTOM OF HOLE AT 55.50 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Static water level observed in casing and recorded on 6/2/2021
3. Hard drilling encountered from approximately 40.2 to 45 ft.
4. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
02-Jun-21	00:30	45.00	45.00	22.00		

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp LB
B.I.N. 1066669

SHEET 3 OF 3 HOLE DN-W-09

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 125
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-125
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 235,868.707 (E) 1,012,716.761 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-Jun-2021 **DATE FINISH** 04-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	
		J1						(0.90) Brown to Dark Brown Silty SAND (FILL)	(M-NPL)
		J2						(2.00) Brown to Dark Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J3						(4.00) Brown Silty SAND (FILL)	(M-NPL)
	5.0								
		J4	2	3	3	5		(6.00) Gray to Brown Silty SAND (FILL)	(M-NPL)
		J5	2	3	4	6		(8.00) Gray to Brown Silty SAND (FILL)	(M-NPL)
	10.0								
		J6	7	6	12	6		(10.00) Dark Gray to Brown Silty SAND (FILL)	(W-NPL)
	15.0								
		J7	4	8	6	4		(15.00) Brown Sandy SILT (SILT and CLAY)	(W-LPL)
		J8	13	14	14	8		(17.00) Brown Sandy SILT (SILT and CLAY)	(W-LPL)
	20.0								
		J9	5	50/5"				(20.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(W-NPL)
		R1						(22.00) Run #1 Drilled from 22'0" to 27'0" ROCK REC. 60" 100%, 10 pieces and fragments, intensely to moderately fractured	
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-125

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 125
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-125
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)
SCALED COORDINATES (N) 235,868.707 (E) 1,012,716.761 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 02-Jun-2021 **DATE FINISH** 04-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(27.00) Run #2 Drilled from 27'0" to 32'0" ROCK REC. 60" 100%, 8 pieces and fragments, intensely to moderately fractured
	30.0							
		R3						(32.00) Run #3 Drilled from 32'0" to 37'0" ROCK REC. 60" 100%, 8 pieces, moderately fractured
	35.0							
		R4						(37.00) Run #4 Drilled from 37'0" to 42'0" ROCK REC. 60" 100%, 8 pieces, moderately to slightly fractured
	40.0							
		R5						(42.00) Run #5 Drilled from 42'0" to 47'0" ROCK REC. 60" 100%, 6 pieces and fragments, moderately fractured
	45.0							

BOTTOM OF HOLE AT 47.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 126
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-126
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 235,857.990 (E) 1,012,733.964 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 07-Jun-2021 **DATE FINISH** 07-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Brown Silty SAND (FILL)	(M-NPL)
		J2						(2.00) Brown-Gray Silty SAND (FILL)	(M-NPL)
		J3						(4.00) Brown-Gray silty SAND, Gravelly (FILL)	(M-NPL)
	5.0								
		J4	3	2	2	4		(6.00) Gray-Brown to Brown Silty SAND (FILL)	(M-NPL)
		J5	5	14	7	4		(8.00) Gray-Brown to Brown Silty SAND (FILL)	(M-NPL)
	10.0								
		J6	6	4	3	2		(10.00) Red-Brown to Brown SAND, Gravel (FILL)	(M-NPL)
									(M-NPL)
	15.0								
		J7	3	21	17	19		(15.00) Gray-Brown Gravelly SAND, Silty (FILL)	(W-NPL)
		J8	13	22	50/3"			(17.00) Brown to Gray-Brown Gravelly SAND (FILL)	(W-NPL)
	20.0								
		J9	3	5	3	3		(20.00) Brown Sandy Silty CLAY (SILT and CLAY)	
		J10	2	4	7	30		(22.00) Brown Sandy Silty CLAY (SILT and CLAY)	
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-126

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 126
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-126
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 235,857.990 (E) 1,012,733.964 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 07-Jun-2021 **DATE FINISH** 07-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J11	25	50/1"				(25.00) Brown Gravelly SAND (DECOMPOSED BEDROCK) (W-NPL)
		R1						(27.00) Run #1 Drilled from 27'0" to 32'0" ROCK REC. 60" 100%, 11 pieces and fragments, intensely fractured
	30.0							
		R2						(32.00) Run #2 Drilled from 32'0" to 37'0" ROCK REC. 60" 100%, 9 pieces and fragments, intensely fractured
	35.0							
		R3						(37.00) Run #3 Drilled from 37'0" to 42'0" ROCK REC. 60" 100%, 10 pieces and fragments, intensely to moderately fractured
	40.0							
		R4						(42.00) Run #4 Drilled from 42'0" to 47'0" ROCK REC. 60" 100%, 13 pieces and fragments, intensely to moderately fractured
	45.0							

BOTTOM OF HOLE AT 47.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-126

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 127
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-127
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,059.809 (E) 1,012,898.015 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-May-2021 **DATE FINISH** 07-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.60) CONCRETE	
		J1						(0.90) Red to Gray Sandy GRAVEL, Large Brick Pieces (FILL)	(M-NPL)
		J2						(2.00) Red to Gray Sandy GRAVEL, Large Brick Pieces (FILL)	(M-NPL)
		J3						(4.00) Similar to J2 (FILL)	(M-NPL)
	5.0								
		J4	6	5	4	4		(6.00) Brown to Gray to Red Silty SAND, Gravelly, Brick Fragments (FILL)	(M-NPL)
		J5	5	8	11	7		(8.00) Brown to Gray to Red Silty SAND, Gravelly, Trace Brick Fragments (FILL)	(M-NPL)
	10.0								
		J6	3	2	3	1		(10.00) Brown Silty SAND (FILL)	(M-NPL)
	15.0								
		J7	10	11	10	12		(15.00) Brown Gravelly SAND, Silty (GLACIAL SOILS)	(M-NPL)
	20.0								
		R1						(20.00) Run #1 Drilled from 20'0" to 25'0" ROCK REC. 12" 20%, 2 pieces, intensely to moderately fractured	
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 127
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-127
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,059.809 (E) 1,012,898.015 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-May-2021 **DATE FINISH** 07-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" to 30'0" ROCK REC. 53" 88%, 8 pieces, moderately fractured
	30.0	R3						(30.00) Run #3 Drilled from 30'0" to 35'0" ROCK REC. 59" 98%, 9 pieces, moderately fractured
	35.0							

BOTTOM OF HOLE AT 35.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-127

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 128
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-128
LINE
STA
OFFSET ft
SURF. ELEV. 28.5 (EST.)

SCALED COORDINATES (N) 236,176.653 (E) 1,012,989.485 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 07-May-2021 **DATE FINISH** 07-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.60) CONCRETE	
		J1						(0.90) Brown to Gray Sandy GRAVEL, Silty, Several Cobbles (FILL)	(M-NPL)
		J2						(2.00) Similar to J1	(M-NPL)
	5.0	J3						(4.00) Brown to Orange-Brown to Gray Silty SAND (FILL)	(M-NPL)
		J4	4	7	7	4		(6.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	10.0	J5	14	23	14	12		(8.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J6	5	4	8	15		(10.00) Brown to Gray Silty SAND, Gravelly, Creosote Odor (FILL)	(M-NPL)
	15.0	J7	23	13	11	18		(15.00) Gray to Brown Gravelly SAND, Silty Mica Particles, Creosote Odor (FILL)	(M-NPL)
	20.0	J8	10	10	6	8		(20.00) Gray to Black Gravelly SAND, Silty Mica Particles, Slight Creosote Odor (GLACIAL SOILS)	(M-NPL)
	25.0	R1						(24.00) Run #1 Drilled from 24'0" to 29'0" ROCK REC. 55" 92%, 11 pieces and fragments, intensely to moderately fractured	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 128
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-128
LINE
STA
OFFSET ft
SURF. ELEV. 28.5 (EST.)

SCALED COORDINATES (N) 236,176.653 (E) 1,012,989.485 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 07-May-2021 **DATE FINISH** 07-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(29.00) Run #2 Drilled from 29'0" to 34'0" ROCK REC. 54" 90%, 6 pieces, moderately to slightly fractured
	30.0							

BOTTOM OF HOLE AT 34.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-128

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 129
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-129
LINE
STA
OFFSET ft
SURF. ELEV. 29.0 (EST.)

SCALED COORDINATES (N) 236,282.520 (E) 1,013,075.560 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 12-Apr-2021 **DATE FINISH** 12-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.50) Brown Silty SAND (FILL)	(M-NPL)
		J2						(2.00) Brown to Black Gravelly SAND, Silty, Glass Fragments (FILL)	(M-NPL)
	5.0	J3						(4.00) Brown Silty SAND, Trace Weathered Rock (FILL)	(M-NPL)
		J4	4	6	13	7		(6.00) Brown to Gray Gravelly SAND, Silty, Trace Weathered Rock (FILL)	(M-NPL)
	10.0	J5	6	5	7	12		(8.00) Black to Gray Sandy GRAVEL, Slight Petroleum Odor (DECOMPOSED BEDROCK)	(M-NPL)
	15.0	J6	9	16	40	18		(10.00) Brown to Gray Silty SAND, Gravelly, Slight Petroleum Odor (DECOMPOSED BEDROCK)	(M-NPL)
	20.0	J7	3	2	2	2		(15.00) Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	25.0	J8	7	11	39	20		(20.00) Black To Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 129
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-129
LINE
STA
OFFSET ft
SURF. ELEV. 29.0 (EST.)

SCALED COORDINATES (N) 236,282.520 (E) 1,013,075.560 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 12-Apr-2021 **DATE FINISH** 12-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	9	10	14	50/0"		(25.00) Black to Gray Sandy GRAVEL (DECOMPOSED BEDROCK) (M-NPL)
	30.0	R1						(27.00) Run #1 Drilled from 27'0" to 32'0" ROCK REC. 60" 100%, 17 pieces, intensely to moderately fractured
	35.0	R2						(32.00) Run #2 Drilled from 32'0" to 37'0" ROCK REC. 60" 100%, 8 pieces, moderately fractured
	40.0	R3						(37.00) Run #3 Drilled from 37'0" to 42'0" ROCK REC. 58" 97%, 10 pieces, moderately fractured
	45.0	R4						(42.00) Run #4 Drilled from 42'0" to 47'0" ROCK REC. 43" 72%, 8 pieces plus fragments, intensely fractured

BOTTOM OF HOLE AT 47.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-129

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 130
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-130
LINE
STA
OFFSET ft
SURF. ELEV. 29.0 (EST.)

SCALED COORDINATES (N) 236,286.687 (E) 1,013,069.417 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-Apr-2021 **DATE FINISH** 13-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.40) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J3						(4.00) Brown to Gray Sandy Clayey SILT, Gravelly (FILL)	(M-LPL)
	5.0								
		J4	8	7	11	8		(6.00) Brown to Dark Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J5	8	7	8	7		(8.00) Brown Sandy SILT (FILL)	(M-LPL)
	10.0								
		J6	7	6	6	7		(10.00) Brown Sandy SILT, Clayey (FILL)	(M-LPL)
	15.0								
		J7	2	2	2	2		(15.00) Brown to Gray CLAY (SILT and CLAY)	(M-LPL)
	20.0								
		J8	31	33	23	24		(20.00) Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	25.0								

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-130

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 130
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-130
LINE
STA
OFFSET ft
SURF. ELEV. 29.0 (EST.)

SCALED COORDINATES (N) 236,286.687 (E) 1,013,069.417 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-Apr-2021 **DATE FINISH** 13-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" to 30'0" ROCK REC. 48" 80%, 10 pieces and fragments, intensely to moderately fractured
	30.0	R2						(30.00) Run #2 Drilled from 30'0" to 35'0" ROCK REC. 58" 97%, 7 pieces, moderately to slightly fractured
	35.0	R3						(35.00) Run #3 Drilled from 35'0" to 40'0" ROCK REC. 58" 97%, 10 pieces and fragments, moderately fractured
	40.0	R4						(40.00) Run #4 Drilled from 40'0" to 45'0" ROCK REC. 59" 98%, 11 pieces, moderately fractured
	45.0							BOTTOM OF HOLE AT 45.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-130

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 131
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-131
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,368.890 (E) 1,013,138.839 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-Apr-2021 **DATE FINISH** 13-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) ASPHALT
		J1						(0.40) Brown Silty SAND, Gravelly (FILL) (M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL) (M-NPL)
		J3						(4.00) Brown Silty SAND, Gravelly (FILL) (M-NPL)
	5.0							
		J4	6	13	10	10		(6.00) Brown Silty SAND, Gravelly (FILL) (M-NPL)
		J5	14	17	52	30		(8.00) Brown Silty SAND, Gravelly (FILL) (M-NPL)
	10.0							
		J6	11	12	12	14		(10.00) Brown Silty SAND, Gravelly (FILL) (M-NPL)
	15.0							
		J7 R1	50/0"					(15.00) Run #1 Drilled from 15'0" to 20'0" ROCK REC. 55" 92%, 8 pieces, moderately fractured See Note 3
	20.0							
		R2						(20.00) Run #2 Drilled from 20'0" to 25'0" ROCK REC. 59" 98%, 7 pieces, moderately to slightly fractured
	25.0							

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-131

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 131
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-131
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,368.890 (E) 1,013,138.839 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 13-Apr-2021 **DATE FINISH** 13-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R3						(25.00) Run #3 Drilled from 25'0" to 30'0" ROCK REC. 53" 88%, 11 pieces and fragments, intensely to moderately fractured
	30.0	R4						(30.00) Run #4 Drilled from 30'0" to 35'0" ROCK REC. 59" 98%, 8 pieces, slightly fractured
	35.0	R5						(35.00) Run #5 Drilled from 35'0" to 40'0" ROCK REC. 56" 93%, 10 pieces, moderately fractured
	40.0							BOTTOM OF HOLE AT 40.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Refusal at 15 ft, Sample J7 No Recovery.
4. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-131

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 132
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-132
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,378.557 (E) 1,013,147.360 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 12-Apr-2021 **DATE FINISH** 12-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.40) GRAVEL (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J4	32	36	41	50		(6.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	10.0	J5	27	32	49	50/3"		(8.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	15.0	J6	28	27	22	53		(10.00) Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
		J7	50	75/2"				(15.00) Tan to Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	20.0	R1						(16.00) Run #1 Drilled from 16'0" to 21'0" ROCK REC. 43" 72%, 9 pieces, intensely to moderately fractured	
	25.0	R2						(21.00) Run #2 Drilled from 21'0" to 26'0" ROCK REC. 59" 98%, 14 pieces, moderately to slightly fractured	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 132
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-132
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,378.557 (E) 1,013,147.360 **DATUM** NAD83
DATE START 12-Apr-2021 **DATE FINISH** 12-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R3						(26.00) Run #3 Drilled from 26'0" to 31'0" ROCK REC. 60" 100%, 7 pieces, moderately to slightly fractured
	30.0							
		R4						(31.00) Run #4 Drilled from 31'0" to 36'0" ROCK REC. 59" 98%, 11 pieces, intensely to moderately fractured
	35.0							
		R5						(36.00) Run #5 Drilled from 36'0" to 41'0" ROCK REC. 58" 97%, 10 pieces, intensely to moderately fractured
	40.0							

BOTTOM OF HOLE AT 41.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 2 OF 2 HOLE DN-B-132

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 133
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-133
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 236,442.665 (E) 1,013,214.962 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 27-Apr-2021 **DATE FINISH** 29-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Gray to Brown to Black Sandy GRAVEL, Silty (FILL)	(M-NPL)
		J2						(2.00) Gray to Brown Gravelly SAND, Silty (FILL)	(M-NPL)
		J3						(4.00) Similar to J2	(M-NPL)
	5.0								
		J4	22	20	23	24		(6.00) Brown to Gray Gravelly SAND, Silty (GLACIAL SOILS)	(M-NPL)
		J5	17	15	16	20		(8.00) Brown to Gray Gravelly SAND, Silty (GLACIAL SOILS)	(M-NPL)
	10.0								
		J6	14	17	13	10		(10.00) See Note 3	(M-NPL)
	15.0								
		J7	12	18	17	20		(15.00) Light Brown to Brown SAND (GLACIAL SOILS)	(M-NPL)
	20.0								
		R1						(20.00) Run #1 Drilled from 20'0" to 25'0" ROCK REC. 56" 93%, 13 pieces, intensely to moderately fractured	
	25.0								

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 133
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-133
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 236,442.665 (E) 1,013,214.962 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 27-Apr-2021 **DATE FINISH** 29-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" to 30'0" ROCK REC. 46" 77%, 3 pieces, moderately to slightly fractured
	30.0	R3						(30.00) Run #3 Drilled from 30'0" to 35'0" ROCK REC. 59" 98%, 8 pieces, moderately fractured
	35.0	R4						(35.00) Run #4 Drilled from 35'0" to 40'0" ROCK REC. 5" 8%, 2 pieces, intensely fractured See Note 4
	40.0	R5						(40.00) Run #5 Drilled from 40'0" to 45'0" ROCK REC. 56" 93%, 5 pieces, moderately to slightly fractured
	45.0	R6						(45.00) Run #6 Drilled from 45'0" to 50'0" ROCK REC. 60" 100%, 4 pieces, slightly fractured
	50.0							BOTTOM OF HOLE AT 50.00 ft

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 133
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PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-133
LINE
STA
OFFSET ft
SURF. ELEV. 31.0 (EST.)

SCALED COORDINATES (N) 236,442.665 (E) 1,013,214.962 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 27-Apr-2021 **DATE FINISH** 29-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Large piece of gravel stuck in spoon tip.
4. Very hard drilling conditions encountered from 35 to 40 ft, possible reason for poor recovery. Driller noted possible issue with casing here.
5. Vertical Datum NAVD88

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 3 OF 3 HOLE DN-B-133

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 134
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-134
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,451.097 (E) 1,013,203.793 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) Dark Gray GRAVEL (FILL)	(M-NPL)
		J2						(2.00) Dark Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Brown to Black Silty SAND, Gravelly (FILL)	(M-NPL)
		J4	4	3	3	8		(6.00) Dark Brown to Brown Sandy SILT (FILL)	(M-LPL)
	10.0	J5	8	9	10	17		(8.00) Brown to Dark Gray Sandy GRAVEL, Silty (FILL)	(M-NPL)
	15.0	J6	4	1	1	2		(10.00) Brown Sandy SILT (FILL)	(M-LPL)
	20.0	J7	16	24	17	18		(15.00) Brown to Dark Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	25.0	J8 R1	70/3"					(20.00) Brown Gravelly SAND, Silty (DECOMPOSED BEDROCK) See Note 3 Run #1 Drilled from 20'0" to 25'0" ROCK REC. 54" 90%, 9 pieces, intensely to moderately fractured	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 134
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-134
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)
SCALED COORDINATES (N) 236,451.097 (E) 1,013,203.793 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" to 30'0" ROCK REC. 59" 98%, 10 pieces, moderately fractured
	30.0	R3						(30.00) Run #3 Drilled from 30'0" to 35'0" ROCK REC. 55" 92%, 7 pieces, slightly fractured
	35.0	R4						(35.00) Run #4 Drilled from 35'0" to 40'0" ROCK REC. 59" 98%, 4 pieces, slightly fractured
	40.0	R5						(40.00) Run #5 Drilled from 40'0" to 45'0" ROCK REC. 58" 97%, 7 pieces, moderately to slightly fractured
	45.0	R6						(45.00) Run #6 Drilled from 45'0" to 50'0" ROCK REC. 54" 90%, 5 pieces, moderately to slightly fractured
	50.0							BOTTOM OF HOLE AT 50.00 ft

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 134
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-134
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,451.097 (E) 1,013,203.793 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Refusal, Top of Rock at 20 ft depth.
4. Vertical Datum NAVD88

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 3 OF 3 HOLE DN-B-134

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 135
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-135
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,539.490 (E) 1,013,268.258 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-Apr-2021 **DATE FINISH** 08-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
		J1						(0.50) Gray GRAVEL (FILL)	(M-NPL)
		J2						(2.00) Brown to Gray to Black GRAVEL, Sandy (FILL)	(M-NPL)
	5.0	J3						(4.00) Gray to Black GRAVEL, Sandy (FILL)	(M-NPL)
		J4	7	1	4	6		(6.00) Gray Silty GRAVEL, Sandy (FILL)	(M-NPL)
	10.0	J5	10	5	50/2"			(8.00) Gray to Brown Silty GRAVEL, Sandy, Slight Petroleum Odor (DECOMPOSED ROCK)	(M-NPL)
		J6	50/2"					(10.00) Gray to Black Sandy SILT (DECOMPOSED ROCK)	(M-NPL)
	15.0	J7	50/0"					(15.00) No Recovery	
		R1						(16.00) Run #1 Drilled from 16'0" to 21'0" ROCK REC. 51" 85%, 12 pieces, intensely to moderately fractured	
	20.0	R2						(21.00) Run #2 Drilled from 21'0" to 26'0" ROCK REC. 60" 100%, 4 pieces, slightly to very slightly fractured	
	25.0								

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION J. Aprile/A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 135
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-135
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,539.490 (E) 1,013,268.258 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 06-Apr-2021 **DATE FINISH** 08-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R3						(26.00) Run #3 Drilled from 26'0" to 31'0" ROCK REC. 59" 98%, 2 pieces, not fractured
	30.0							
		R4						(31.00) Run #4 Drilled from 31'0" to 36'0" ROCK REC. 57" 95%, 2 pieces, slightly to very slightly fractured
	35.0							
		R5						(36.00) Run #5 Drilled from 36'0" to 41'0" ROCK REC. 54" 90%, 8 pieces, intensely to slightly fractured
	40.0							
		R6						(41.00) Run #6 Drilled from 41'0" to 46'0" ROCK REC. 53" 88%, 6 pieces, slightly fractured
	45.0							
		R7						(46.00) Run #7 Drilled from 46'0" to 51'0" ROCK REC. 28" 47%, 4 pieces, slightly fractured
	50.0							

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION J. Aprile/A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 3 HOLE DN-B-135

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 135
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-135
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,539.490 (E) 1,013,268.258 **DATUM** NAD83
DATE START 06-Apr-2021 **DATE FINISH** 08-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0							

BOTTOM OF HOLE AT 51.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Static water level observed in casing and recorded on 4/7/2021.
3. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
07-Apr-21	07:00	32.00	20.00	17.00		

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION J. Aprile/A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 3 OF 3 HOLE DN-B-135

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 136
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-136
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,528.891 (E) 1,013,280.303 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.80) CONCRETE	
		J1						(1.20) Brown to Gray GRAVEL, Sandy (FILL)	(M-NPL)
		J2						(2.00) Gray to Black GRAVEL, Sandy (FILL)	(M-NPL)
		J3						(4.00) Gray to Black to Brown Silty GRAVEL, Sandy (FILL)	(M-NPL)
	5.0								
		J4	2	1	7	8		(6.00) Light Gray to Dark Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J5	50/3"					(8.00) No Recovery	
	10.0								
		J6	50/3"					(10.00) Gray to Brown GRAVEL, Sandy (DECOMPOSED BEDROCK)	(M-NPL)
	15.0								
		R1						(15.00) Run #1 Drilled from 15'0" to 20'0" ROCK REC. 52" 87%, 10 pieces, intensely to moderately fractured	
	20.0								
		R2						(20.00) Run #2 Drilled from 20'0" to 25'0" ROCK REC. 60" 100%, 7 pieces, moderately to slightly fractured	
	25.0								

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 136
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-136
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,528.891 (E) 1,013,280.303 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R3						(25.00) Run #3 Drilled from 25'0" to 30'0" ROCK REC. 55" 92%, 2 pieces, very slightly fractured
	30.0	R4						(30.00) Run #4 Drilled from 30'0" to 35'0" ROCK REC. 58" 97%, 3 pieces, slightly fractured
	35.0	R5						(35.00) Run #5 Drilled from 35'0" to 40'0" ROCK REC. 52" 87%, 5 pieces, moderately fractured
	40.0	R6						(40.00) Run #6 Drilled from 40'0" to 45'0" ROCK REC. 58" 97%, 5 pieces, moderately to slightly fractured
	45.0	R7						(45.00) Run #7 Drilled from 45'0" to 50'0" ROCK REC. 57" 95%, 16 pieces, intensely to moderately fractured
	50.0							BOTTOM OF HOLE AT 50.00 ft

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
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GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

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COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-136
LINE
STA
OFFSET ft
SURF. ELEV. 31.5 (EST.)

SCALED COORDINATES (N) 236,528.891 (E) 1,013,280.303 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-Apr-2021 **DATE FINISH** 09-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 3 OF 3 HOLE DN-B-136

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 137
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-137
LINE
STA
OFFSET ft
SURF. ELEV. 32.0 (EST.)
SCALED COORDINATES (N) 236,603.241 (E) 1,013,321.481 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 19-Apr-2021 **DATE FINISH** 19-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) Gray GRAVEL, Sandy (FILL)	(M-NPL)
		J2						(2.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Gray to Black to Brown Silty GRAVEL, Sandy (FILL)	(M-NPL)
		J4	5	9	40	52		(6.00) Gray SAND (DECOMPOSED BEDROCK)	(M-NPL)
	10.0	J5	23	50/1"				(8.00) Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	15.0	R1						(10.00) Run #1 Drilled from 10'0" to 15'0" ROCK REC. 59" 98%, 13 pieces and fragments, intensely to moderately weathered	
	20.0	R2						(15.00) Run #2 Drilled from 15'0" to 20'0" ROCK REC. 60" 100%, 11 pieces, moderately fractured	

BOTTOM OF HOLE AT 20.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 137
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-137
LINE
STA
OFFSET ft
SURF. ELEV. 32.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,603.241 (E) 1,013,321.481 **DATUM** NAD83
DATE START 19-Apr-2021 **DATE FINISH** 19-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Apr-21	09:00	20.00	-	5.70		
22-Apr-21	08:45	20.00	-	6.60		
26-Apr-21	06:00	20.00	-	7.40		

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-137

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 138
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-138
LINE
STA
OFFSET ft
SURF. ELEV. 32.5 (EST.)

SCALED COORDINATES (N) 236,668.746 (E) 1,013,381.933 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 20-Apr-2021 **DATE FINISH** 20-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Gray to Brown GRAVEL, Sandy (FILL)	(M-NPL)
	5.0	J3						(4.00) Gray to Brown GRAVEL, Sandy (FILL)	(M-NPL)
	10.0	R1						(6.00) Run #1 Drilled from 6'0" to 11'0" ROCK REC. 53" 88%, 16 pieces, intensely to moderately fractured	
	15.0	R2						(11.00) Run #2 Drilled from 11'0" to 16'0" ROCK REC. 56" 93%, 11 pieces and fragments, intensely to moderately fractured	

BOTTOM OF HOLE AT 16.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Apr-21	09:00	16.00	-	6.00		
22-Apr-21	08:45	16.00	-	6.00		
26-Apr-21	06:00	16.00	-	6.00		

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 1 HOLE DN-B-138

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 139
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-139
LINE
STA
OFFSET ft
SURF. ELEV. 34.5 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,750.678 (E) 1,013,434.190 **DATUM** NAD83
DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1						(0.00) Brown to Gray Silty SAND (FILL) (M-NPL)
		J2						(2.00) Gray to Brown Silty SAND, Gravelly (FILL) (M-NPL)
	5.0	R1						(5.00) Run #1 Drilled from 5'0" to 10'0" ROCK REC. 57" 95%, 6 pieces, slightly fractured
	10.0	R2						(10.00) Run #2 Drilled from 10'0" to 15'0" ROCK REC. 48" 80%, 5 pieces, moderately to slightly fractured
	15.0							

BOTTOM OF HOLE AT 15.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
22-Apr-21	08:45	15.00	-	1.80		
26-Apr-21	06:00	15.00	-	2.60		

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 1 HOLE DN-B-139

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 140
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-140
LINE
STA
OFFSET ft
SURF. ELEV. 35.0 (EST.)

SCALED COORDINATES (N) 236,816.458 (E) 1,013,497.751 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 14-Apr-2021 **DATE FINISH** 14-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) ASPHALT
		J1						(0.50) Brown to Gray Silty GRAVEL, Sandy (FILL) (M-NPL)
		J2						(2.00) Black to Gray to Brown Silty SAND, Gravelly (FILL) (M-NPL)
		J3						(4.00) Similar to J2 (FILL) (M-NPL)
	5.0							
		R1						(5.00) Run #1 Drilled from 5'0" to 10'0" ROCK REC. 56" 93%, 16 pieces and fragments, intensely to moderately fractured
	10.0							
		R2						(10.00) Run #2 Drilled from 10'0" to 15'0" ROCK REC. 59" 98%, 11 pieces, moderately fractured
	15.0							
		R3						(15.00) Run #3 Drilled from 15'0" to 20'0" ROCK REC. 55" 93%, 10 pieces and fragments, intensely fractured
	20.0							

BOTTOM OF HOLE AT 20.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 1 HOLE DN-B-140

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 141
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-141
LINE
STA
OFFSET ft
SURF. ELEV. 35.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,821.881 (E) 1,013,490.808 **DATUM** NAD83
DATE START 14-Apr-2021 **DATE FINISH** 15-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.50) Brown to Gray GRAVEL, Sandy (FILL)	(M-NPL)
		J2						(2.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
		J3						(4.00) Brown to Gray Silty GRAVEL, Sandy (FILL)	(M-NPL)
	5.0								
		J4	50/3"					(5.70) Gray GRAVEL, Sandy (DECOMPOSED BEDROCK)	(M-NPL)
		R1						(6.00) Run #1 Drilled from 6'0" to 11'0" ROCK REC. 43" 72%, 14 pieces, intensely to moderately fractured	
	10.0								
		R2						(11.00) Run #2 Drilled from 11'0" to 16'0" ROCK REC. 58" 97%, 11 pieces and fragments, intensely to moderately fractured	
	15.0								
		R3						(16.00) Run #3 Drilled from 16'0" to 21'0" ROCK REC. 55" 92%, 7 pieces and fragments, intensely fractured	
	20.0								

BOTTOM OF HOLE AT 21.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-141

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 141
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-141
LINE
STA
OFFSET ft
SURF. ELEV. 35.0 (EST.)

SCALED COORDINATES (N) 236,821.881 (E) 1,013,490.808 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 14-Apr-2021 **DATE FINISH** 15-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
20-Apr-21	09:00	15.00	-	3.10		
21-Apr-21	09:00	15.00	-	2.90		
22-Apr-21	08:45	15.00	-	1.80		
26-Apr-21	06:00	15.00	-	2.60		

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-141

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 142
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-142
LINE
STA
OFFSET ft
SURF. ELEV. 36.5 (EST.)

SCALED COORDINATES (N) 236,857.558 (E) 1,013,517.233 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 20-Apr-2021 **DATE FINISH** 20-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(0.90) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Gray to Brown SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
		J4						(6.00) Gray to Tan to White GRAVEL, Sandy (DECOMPOSED BEDROCK)	(M-NPL)
	10.0	J5						(8.00) Brown to Gray to Black Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
		R1						(10.00) Run #1 Drilled from 10'0" to 15'0" ROCK REC. 59" 98%, 10 pieces, moderately fractured	
	15.0	R2						(15.00) Run #2 Drilled from 15'0" to 20'0" ROCK REC. 60" 100%, 10 pieces and fragments, moderately fractured	
	20.0							BOTTOM OF HOLE AT 20.00 ft	

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-142

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 142
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-142
LINE
STA
OFFSET ft
SURF. ELEV. 36.5 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,857.558 (E) 1,013,517.233 **DATUM** NAD83
DATE START 20-Apr-2021 **DATE FINISH** 20-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Apr-21	09:00	20.00	-	6.80		
22-Apr-21	08:45	20.00	-	6.90		
26-Apr-21	06:00	20.00	-	7.30		

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 143
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-143
LINE
STA
OFFSET ft
SURF. ELEV. 37.0 (EST.)

SCALED COORDINATES (N) 236,928.980 (E) 1,013,573.805 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-Apr-2021 **DATE FINISH** 20-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Brown to Orange-Brown Silty SAND (FILL)	(M-NPL)
		J2						(2.00) Brown to Gray SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) See Note 3	
		J4	6	15	21	24		(6.00) Brown to Orange-Brown Silty SAND, Gravelly (GLACIAL SOILS)	(M-NPL)
	10.0	J5	8	28	28	50/3"		(8.00) Brown to Orange-Brown to Gray Silty SAND, Gravelly (GLACIAL SOILS)	(M-NPL)
		R1	100/4"					(10.00) Brown to Gray Silty SAND (GLACIAL SOILS)	(M-NPL)
	15.0	R1						(11.00) Run #1 Drilled from 11'0" to 16'0" ROCK REC. 38" 63%, 6 pieces and fragments, intensely fractured	
	20.0	R2						(16.00) Run #2 Drilled from 16'0" to 21'0" ROCK REC. 27" 45%, 4 pieces and fragments, intensely fractured	
	25.0	R3						(21.00) Run #3 Drilled from 21'0" to 26'0" ROCK REC. 21" 35%, 5 pieces and fragments, intensely fractured	

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 143
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-143
LINE
STA
OFFSET ft
SURF. ELEV. 37.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,928.980 (E) 1,013,573.805 **DATUM** NAD83
DATE START 19-Apr-2021 **DATE FINISH** 20-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							

BOTTOM OF HOLE AT 26.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Difficult drilling and sampling conditions encountered from approximatley 4 to 6 ft bgs.
4. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
21-Apr-21	09:00	26.00	-	5.20		
22-Apr-21	08:45	26.00	-	7.50		
26-Apr-21	06:00	26.00	-	9.20		

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 2 OF 2 HOLE DN-B-143

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 144
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-144
LINE
STA
OFFSET ft
SURF. ELEV. 38.0 (EST.)

SCALED COORDINATES (N) 237,008.433 (E) 1,013,635.393 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-Apr-2021 **DATE FINISH** 19-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Brown to Tan Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J3						(4.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0								
		J4	12	13	22	25		(6.00) Brown to Gray Silty SAND, Gravelly (GLACIAL SOILS)	(M-NPL)
		J5	50/1"					(8.00) Gray to Brown GRAVEL, Sandy (DECOMPOSED BEDROCK)	(M-NPL)
	10.0								
		R1						(10.00) Run #1 Drilled from 10'0" to 15'0" ROCK REC. 35" 60%, 9 pieces and fragments, intensely fractured	
	15.0								
		R2						(15.00) Run #2 Drilled from 15'0" to 20'0" ROCK REC. 58" 97%, 15 pieces, intensely to moderately fractured	
	20.0								
		R3						(20.00) Run #3 Drilled from 20'0" to 25'0" ROCK REC. 57" 95%, 7 pieces, moderately to slightly fractured	
	25.0								
								BOTTOM OF HOLE AT 25.00 ft	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-144

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 144
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-144
LINE
STA
OFFSET ft
SURF. ELEV. 38.0 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 237,008.433 (E) 1,013,635.393 **DATUM** NAD83
DATE START 19-Apr-2021 **DATE FINISH** 19-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

Notes:
1. Rig CME-55, hammer automatic.
2. Temporary observation well installed in completed borehole.
3. Vertical Datum NAVD88

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
22-Apr-21	08:45	25.00	-	10.60		
26-Apr-21	06:00	25.00	-	10.80		

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-144

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 145
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-145
LINE
STA
OFFSET ft
SURF. ELEV. 37.5 (EST.)

SCALED COORDINATES (N) 237,079.823 (E) 1,013,692.070 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-Apr-2021 **DATE FINISH** 05-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	(M-NPL)
		J1						(0.80) Brown Gravelly SAND, Silty (FILL)	(M-NPL)
	5.0	J2						(4.00) Brown Sandy GRAVEL, Silty (FILL)	(M-NPL)
		J3	42	7	3	3		(6.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	10.0	J4	11	25	55	22		(8.00) Brown Silty SAND, Gravelly (GLACIAL SOILS)	(M-NPL)
		J5	50/1"					(10.00) See Note 3	
		R1		5				Run #1 Drilled from 10'0" to 12'0" ROCK REC. 12" 50%, 2 pieces, moderately fractured	
	15.0	J6	11	15	12	31		(15.00) Brown SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	20.0	R2						(20.00) Run #2 Drilled from 20'0" to 25'0" ROCK REC. 58" 97%, 9 pieces and fragments, intensely to moderately fractured	
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 145
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-145
LINE
STA
OFFSET ft
SURF. ELEV. 37.5 (EST.)

SCALED COORDINATES (N) 237,079.823 (E) 1,013,692.070 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 02-Apr-2021 **DATE FINISH** 05-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R3						(25.00) Run #3 Drilled from 25'0" to 30'0" ROCK REC. 53" 88%, 7 pieces and fragments, moderately fractured
	30.0	R4						(30.00) Run #4 Drilled from 30'0" to 35'0" ROCK REC. 60" 100%, 4 pieces, moderately to slightly fractured
	35.0	R5						(35.00) Run #5 Drilled from 35'0" to 40'0" ROCK REC. 55" 92%, 7 pieces, moderately to slightly fractured
	40.0							

BOTTOM OF HOLE AT 40.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Refusal at approximatley 10 ft bgs. Cored from approx. 10 to 12 ft. 12 in. of rock core recovered.
4. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-145

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 146
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-146
LINE
STA
OFFSET ft
SURF. ELEV. 37.8 (EST.)

SCALED COORDINATES (N) 237,071.749 (E) 1,013,700.594 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-Apr-2021 **DATE FINISH** 07-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.60) Brown Gravelly SAND, Silty (FILL)	(M-NPL)
		J2						(2.00) Brown Gravelly SAND, Silty (FILL)	(M-NPL)
	5.0								
		J3	23	7	3	2		(6.00) Brown Silty SAND, Gravelly, Mica (FILL)	(M-NPL)
		J4	9	15	20	17		(8.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	10.0								
		J5	17	49	79	45		(10.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
	15.0								
		J6	50	35	21	40		(15.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
								See Note 3	
	20.0								
		J7	26	48	50/3"			(20.00) Brown Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)
		R1						(22.00) Run #1 Drilled from 22'0" to 27'0" ROCK REC. 41" 68%, 9 pieces, intensely to moderately fractured	
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 146
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-146
LINE
STA
OFFSET ft
SURF. ELEV. 37.8 (EST.)

SCALED COORDINATES (N) 237,071.749 (E) 1,013,700.594 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-Apr-2021 **DATE FINISH** 07-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(27.00) Run #2 Drilled from 27'0" to 32'0" ROCK REC. 54" 90%, 5 pieces, slightly fractured
	30.0							
		R3						(32.00) Run #3 Drilled from 32'0" to 37'0" ROCK REC. 48" 80%, 7 pieces, slightly fractured
	35.0							
		R4						(37.00) Run #4 Drilled from 37'0" to 42'0" ROCK REC. 59" 98%, 14 pieces, intensely to moderately fractured
	40.0							
		R5						(42.00) Run #5 Drilled from 42'0" to 47'0" ROCK REC. 59" 98%, 5 pieces, moderately to slightly fractured
	45.0							

BOTTOM OF HOLE AT 47.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water observed in casing and recorded on 4/7/2021.
3. Difficult drilling conditions encountered from approximately 17 to 19 ft bgs.

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 146
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-146
LINE
STA
OFFSET ft
SURF. ELEV. 37.8 (EST.)

SCALED COORDINATES (N) 237,071.749 (E) 1,013,700.594 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 05-Apr-2021 **DATE FINISH** 07-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

4. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 3 OF 3 HOLE DN-B-146

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 147
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-147
LINE
STA
OFFSET ft
SURF. ELEV. 37.3 (EST.)

SCALED COORDINATES (N) 237,140.096 (E) 1,013,739.503 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-Apr-2021 **DATE FINISH** 02-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.40) CONCRETE	
		J1						(0.80) Brown Silty SAND, Fine Gravel and Brick Fragments (FILL)	(M-NPL)
	5.0								
		J2	9	5	6	5		(6.00) Light Brown Silty SAND, Gravelly, Mica (FILL)	(M-NPL)
		J3A	7	5				(8.00) Brown Silty SAND, Gravelly, Mica (FILL)	(M-NPL)
	10.0	J3B			7	7		(9.00) Yellow-Brown Sandy SILT (DECOMPOSED ROCK)	(M-LPL)
		J4	13	19	23	18		(10.00) Yellow-Brown Sandy SILT, Gravelly, Mica (DECOMPOSED BEDROCK)	(M-LPL)
	15.0								
		J5	9	10	13	15		(15.00) Brown to Gray-Brown Silty SAND, Mica (DECOMPOSED BEDROCK)	(M-NPL)
	20.0								
		J6	9	19	12	13		(20.00) Brown to Gray-Brown Gravelly SAND, Silty, Mica (DECOMPOSED BEDROCK)	(M-NPL)
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-147

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 147
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-147
LINE
STA
OFFSET ft
SURF. ELEV. 37.3 (EST.)

SCALED COORDINATES (N) 237,140.096 (E) 1,013,739.503 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 01-Apr-2021 **DATE FINISH** 02-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J7	50/1"					(25.00) See Note 3
		R1						(26.00) Run #1, Drilled from 26'0" to 31'0" ROCK REC. 47" 78%, 8 pieces, intensely to moderately fractured
	30.0							
		R2						(31.00) Run #2 Drilled from 31'0" to 36'0" ROCK REC. 59" 98%, 12 pieces, intensely to moderately fractured
	35.0							

BOTTOM OF HOLE AT 36.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Refusal at 25 ft, no recovery. Driller reports soft rock at 25 ft. Advance to 26 ft and begin coring.
4. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-147

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 148
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-148
LINE
STA
OFFSET ft
SURF. ELEV. 37.3 (EST.)

SCALED COORDINATES (N) 237,202.906 (E) 1,013,790.269 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 31-Mar-2021 **DATE FINISH** 01-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
		J1						(0.40) Gray Fine Angular Silty GRAVEL, Sandy (FILL)	(M-NPL)
	5.0								
		J2	25	19	5	4		(6.00) Brown Coarsely Fractured GRAVEL With Sand, Silt, and Brick and Concrete Fragments (FILL)	(M-NPL)
		J3	5	4	3	4		(8.00) Brown Silty SAND with Coarsely Fractured Gravel and Brick Fragments (FILL)	(M-NPL)
	10.0								
		J4	5	3	1	1		(10.00) Brown Clayey SILT, Gravelly (DECOMPOSED BEDROCK)	(M-LPL)
	15.0								
		J5	10	11	15	14		(15.00) Brown Silty SAND, Gravelly, Mica (DECOMPOSED BEDROCK)	(M-NPL)
	20.0								
		J6	14	17	14	22		(20.00) Brown Silty SAND, Gravelly, Mica (DECOMPOSED BEDROCK)	(M-NPL)
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-148

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 148
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-148
LINE
STA
OFFSET ft
SURF. ELEV. 37.3 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 237,202.906 (E) 1,013,790.269 **DATUM** NAD83
DATE START 31-Mar-2021 **DATE FINISH** 01-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J7	11	26	32	30		(25.00) Brown Silty SAND, Gravelly, Mica (DECOMPOSED BEDROCK) (M-NPL)
	30.0	R1						(28.00) Run #1, Drilled from 28'0" to 33'0" ROCK REC. 38" 63%, 3 pieces, moderately fractured
	35.0	R2						(33.00) Run #2 Drilled from 33'0" to 38'0" ROCK REC. 48" 80%, 7 pieces, moderately fractured
	40.0	R3						(38.00) Run #3 Drilled from 38'0" to 43'0" ROCK REC. 60" 100%, 4 pieces, moderately to slightly fractured

BOTTOM OF HOLE AT 43.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 149
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-149
LINE
STA
OFFSET ft
SURF. ELEV. 38.5 (EST.)

SCALED COORDINATES (N) 237,272.524 (E) 1,013,856.512 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
		J1						(0.50) Gray GRAVEL (FILL)	(M-NPL)
		J2						(2.00) Gray to Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Gray to Brown GRAVEL, Sandy (FILL)	(M-NPL)
		J4	3	3	3	2		(6.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	10.0	J5	1	4	8	5		(8.00) Brown Silty SAND (FILL)	(M-NPL)
	15.0	J6	12	6	3	3		(10.00) No Recovery	
	20.0	J7	12	9	12	14		(15.00) Brown to Gray Poorly Graded SAND, Silty (GLACIAL SOILS)	(M-NPL)
	25.0	J8	14	30	62	59		(20.00) Brown to Gray Silty SAND, Gravelly (DECOMPOSED BEDROCK)	(M-NPL)

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-149

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 149
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-149
LINE
STA
OFFSET ft
SURF. ELEV. 38.5 (EST.)
SCALED COORDINATES (N) 237,272.524 (E) 1,013,856.512 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	41	50	50/1"			(25.00) Brown to Gray Silty GRAVEL, Sandy (DECOMPOSED BEDROCK) (M-NPL)
		R1						(27.00) Run #1 Drilled from 27'0" to 32'0" ROCK REC. 57" 95%, 10 pieces, intensely to moderately fractured
	30.0							
		R2						(32.00) Run #2 Drilled from 32'0" to 37'0" ROCK REC. 60" 100%, 5 pieces and fragments, moderately to slightly fractured
	35.0							

BOTTOM OF HOLE AT 37.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR B. Shore
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 2 OF 2 HOLE DN-B-149

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 150
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-150
LINE
STA
OFFSET ft
SURF. ELEV. 42.0 (EST.)
SCALED COORDINATES (N) 237,452.351 (E) 1,013,983.423 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Similar to J1	(M-NPL)
	5.0	J3						(4.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J4	7	5	6	4		(6.00) Brown to Gray Silty SAND, Gravelly (FILL)	(M-NPL)
	10.0	J5	2	6	5	6		(8.00) Brown Sandy SILT (FILL)	(M-LPL)
	15.0	J6	3	1	2	4		(10.00) Brown Sandy SILT, Clayey (FILL)	(M-LPL)
		J7	6	6	9	16		(15.00) Brown Silty SAND (FILL)	(M-NPL)
	20.0	R1						(19.00) Run #1 Drilled from 19'0" to 24'0" ROCK REC. 50" 83%, 12 pieces and fragments, intensely fractured	
	25.0	R2						(24.00) Run #2 Drilled from 24'0" to 29'0" ROCK REC. 57" 95%, 6 pieces, moderately to slightly fractured	

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 150
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-150
LINE
STA
OFFSET ft
SURF. ELEV. 42.0 (EST.)

SCALED COORDINATES (N) 237,452.351 (E) 1,013,983.423 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							

BOTTOM OF HOLE AT 29.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Aprile

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 2 OF 2 HOLE DN-B-150

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 151
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-151
LINE
STA
OFFSET ft
SURF. ELEV. 44.0 (EST.)

SCALED COORDINATES (N) 237,508.427 (E) 1,014,028.575 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
		J1						(0.30) Brown to Gray GRAVEL, Sandy (FILL)	(M-NPL)
		J2						(2.00) Similar to J1	(M-NPL)
		J3						(4.00) Gray to Brown to White GRAVEL, Sandy (FILL)	(M-NPL)
	5.0								
		J4	9	12	44	58		(6.00) Brown to Gray GRAVEL, Sandy (FILL)	(M-NPL)
								(7.00) (GLACIAL SOILS)	
		J5						(8.00) See Note 3 (GLACIAL SOILS)	
	10.0								
		J6	35	28	20	22		(10.00) Brown Sandy SILT, Clayey (GLACIAL SOILS)	(M-LPL)
	15.0								
		J7	4	5	8	10		(15.00) Brown to Orange-Brown to Gray Sandy SILT (GLACIAL SOILS)	(M-NPL)
	20.0								
		J8	7	50/1"				(20.00) Brown to Gray Silty SAND (DECOMPOSED ROCK)	(M-NPL)
		R1						(22.00) Run #1 Drilled from 22'0" to 27'0" ROCK REC. 50" 83%, 9 pieces, intensely to moderately fractured	
	25.0								

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DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-151

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 151
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-151
LINE
STA
OFFSET ft
SURF. ELEV. 44.0 (EST.)

SCALED COORDINATES (N) 237,508.427 (E) 1,014,028.575 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-Apr-2021 **DATE FINISH** 21-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(27.00) Run #2 Drilled from 27'0" to 32'0" ROCK REC. 54" 90%, 5 pieces, moderately to slightly fractured
	30.0							

BOTTOM OF HOLE AT 32.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Difficult drilling conditions encountere from approximately 8 to 10 ft bgs. Rock core retrieved 4 pieces totaling 9 in. recovered.
4. Vertical Datum NAVD88

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CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

DRILL RIG OPERATOR J. Harrison
SOIL & ROCK DESCRIPTION A. Macaroff

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

SHEET 2 OF 2 HOLE DN-B-151

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 152
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-152
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,023.508 (E) 1,012,868.857 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 29-Apr-2021 **DATE FINISH** 30-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(0.90) Black to Brown Sandy GRAVEL, Silty (FILL)	(M-NPL)
		J2						(2.00) Black to Brown Gravelly SAND, Silty (FILL)	(M-NPL)
		J3						(4.00) Similar to J2 (FILL)	(M-NPL)
	5.0								
		J4	4	5	7	11		(6.00) Black to Gray to Brown Sandy GRAVEL, Silty (FILL)	(M-NPL)
		J5	12	4	8	7		(8.00) Brown to Gray Sandy Clayey SILT, (FILL)	(M-NPL)
	10.0								
		J6	1	WOH	WOH	2		(10.00) Brown Sandy Silty CLAY (FILL)	(M-NPL)
	15.0								
		J7	14	8	8	10		(15.00) Light Brown to Brown Gravelly SAND (GLACIAL SOILS)	(M-NPL)
	20.0								
		R1						(20.00) Run #1 Drilled from 20'0" to 25'0" ROCK REC. 44" 73%, 7 pieces and fragments, intensely to moderately fractured	
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-152

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 152
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-152
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)
SCALED COORDINATES (N) 236,023.508 (E) 1,012,868.857 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 29-Apr-2021 **DATE FINISH** 30-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" to 30'0" ROCK REC. 56" 93%, 9 pieces and fragments, intensely to moderately fractured
	30.0	R3						(30.00) Run #3 Drilled from 30'0" to 35'0" ROCK REC. 50" 83%, 6 pieces, moderately to slightly fractured
	35.0	R4						(35.00) Run #4 Drilled from 35'0" to 40'0" ROCK REC. 58" 97%, 6 pieces, moderately to slightly fractured
	40.0	R5						(40.00) Run #5 Drilled from 40'0" to 45'0" ROCK REC. 52" 87%, 6 pieces and fragments, moderately fractured
	45.0							BOTTOM OF HOLE AT 45.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 153
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-153
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 236,013.958 (E) 1,012,859.956 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 28-Apr-2021 **DATE FINISH** 29-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) ASPHALT
								(0.50) CONCRETE
								(0.90) See Note 3
	5.0							
		J1	100/1"					(6.00) No Recovery
		J2	8	100/5"				(8.00) Black to Gray Sandy GRAVEL, Silty, (FILL) (M-NPL)
	10.0							
		J3	3	1	1	2		(10.00) Light Brown to Orange-Brown Sandy Clayey SILT (FILL) (M-LPL)
	15.0							
		J4	24	18	13	10		(15.00) Poor Recovery, GRAVEL piece in spoon tip. (GLACIAL SOILS)
	20.0							
		R1						(20.00) Run #1 Drilled from 20'0" to 25'0" ROCK REC. 44" 73%, 12 pieces, intensely to moderately fractured
	25.0							

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 153
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-153
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)
SCALED COORDINATES (N) 236,013.958 (E) 1,012,859.956 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 28-Apr-2021 **DATE FINISH** 29-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" to 30'0" ROCK REC. 52" 87%, 5 pieces and fragments, moderately fractured
	30.0	R3						(30.00) Run #3 Drilled from 30'0" to 35'0" ROCK REC. 40" 67%, 8 pieces, moderately fractured
	35.0	R4						(35.00) Run #4 Drilled from 35'0" to 40'0" ROCK REC. 56" 93%, 7 pieces, moderately fractured
	40.0	R5						(40.00) Run #5 Drilled from 40'0" to 45'0" ROCK REC. 57" 95%, 7 pieces, moderately fractured
	45.0							BOTTOM OF HOLE AT 45.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Difficult drilling and sampling conditions encountered from approximately 0.9 to 10 ft bgs.
4. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 154
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-154
LINE
STA
OFFSET ft
SURF. ELEV. 30.5 (EST.)

SCALED COORDINATES (N) 235,977.385 (E) 1,012,829.733 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 11-May-2021 **DATE FINISH** 12-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Brown to Gray to Black Sandy GRAVEL, Silty, Several Cobbles (FILL)	
		J2						(2.00) Similar to J1	
	5.0	J3						(4.00) Brown to Gray to Black Sandy GRAVEL, Silty, Several Cobbles (FILL)	
		J4	44	25	8	8		(6.00) Brown to Gray to Black Sandy GRAVEL, Silty (FILL)	(M-NPL)
	10.0	J5	16	72	18	5		(8.00) Light to Dark Brown Sandy SILT, Gravelly (FILL)	(M-NPL)
		J6	11	5	3	7		(10.00) Light Brown to Dark Brown Sandy SILT (FILL)	(M-NPL)
								See Note 3	(M-NPL)
	15.0	J7	10	6	8	10		(15.00) Gray to Brown Sandy GRAVEL, Silty (FILL)	(M-NPL)
								See Note 4	
	20.0	J8	25	65	100/3"			(20.00) Gray GRAVEL (DECOMPOSED BEDROCK)	(M-NPL)
	25.0								

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-154

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 154
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-154
LINE
STA
OFFSET ft
SURF. ELEV. 30.5 (EST.)
SCALED COORDINATES (N) 235,977.385 (E) 1,012,829.733 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 11-May-2021 **DATE FINISH** 12-May-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" to 30'0" ROCK REC. 58" 97%, 7 pieces and fragments, moderately fractured
	30.0	R2						(30.00) Run #2 Drilled from 30'0" to 35'0" ROCK REC. 59" 98%, 10 pieces, intensely to moderately fractured
	35.0	R3						(35.00) Run #3 Drilled from 35'0" to 40'0" ROCK REC. 43" 72%, 6 pieces and fragments, moderately fractured
	40.0	R4						(40.00) Run #4 Drilled from 40'0" to 45'0" ROCK REC. 46" 77%, 5 pieces, moderately fractured
	45.0							BOTTOM OF HOLE AT 45.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Difficult drilling conditions excountered from approximately 12 to 15 ft bgs.
4. Difficult drilling conditions encountered from approximately 17 to 19 ft bgs.
5. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 155
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-155
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)

SCALED COORDINATES (N) 235,958.163 (E) 1,012,816.946 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 28-Apr-2021 **DATE FINISH** 28-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1						(1.00) Black to Gray to Brown Silty SAND With Gravel (FILL)	(M-NPL)
		J2						(2.00) Similar to J1	(M-NPL)
	5.0	J3						(4.00) Brown to Orange-Brown Silty SAND (FILL)	(M-NPL)
		J4	2	4	2	6		(6.00) Brown to Gray GRAVEL With Silt and Sand (FILL)	(M-NPL)
	10.0	J5	WOH	14	22	27		(8.00) Brown to Gray to White GRAVEL With Silt and Sand (DECOMPOSED ROCK)	(M-NPL)
	15.0	J6	28	9	3	2		(10.00) Brown to Tan to Gray GRAVEL With Sand (DECOMPOSED ROCK)	(M-NPL)
	20.0	J7	48	86	50/1"			(15.00) Gray to White to Brown Silty SAND (DECOMPOSED ROCK)	(M-NPL)
	25.0	J8	33	32	30	33		(20.00) Gray to White Silty SAND (DECOMPOSED ROCK)	(M-NPL)

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-155

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 155
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-155
LINE
STA
OFFSET ft
SURF. ELEV. 30.0 (EST.)
SCALED COORDINATES (N) 235,958.163 (E) 1,012,816.946 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 28-Apr-2021 **DATE FINISH** 28-Apr-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" to 30'0" ROCK REC. 60" 100%, 9 pieces and fragments, intensely fractured
	30.0	R2						(30.00) Run #2 Drilled from 30'0" to 35'0" ROCK REC. 59" 98%, 8 pieces, moderately to slightly fractured
	35.0	R3						(35.00) Run #3 Drilled from 35'0" to 40'0" ROCK REC. 57" 95%, 7 pieces, moderately to slightly fractured
	40.0	R4						(40.00) Run #4 Drilled from 40'0" to 45'0" ROCK REC. 59" 98%, 6 pieces, slightly fractured
	45.0							BOTTOM OF HOLE AT 45.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION T. Poggiogalle

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 156
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-156
LINE
STA
OFFSET ft
SURF. ELEV. 28.5 (EST.)

SCALED COORDINATES (N) 236,158.858 (E) 1,012,975.554 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 21-Jun-2021 **DATE FINISH** 22-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) ASPHALT	
								(0.54) CONCRETE	
								(1.10) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J2						(2.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
	5.0	J3						(4.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J4	10	5	9	13		(6.00) Tan to Brown Silty SAND (FILL)	(M-NPL)
	10.0	J5	14	13	11	11		(8.00) Brown Silty SAND, Gravelly (FILL)	(M-NPL)
		J6	11	13	16	14		(10.00) Brown to Red-Brown Sandy GRAVEL (FILL)	(M-NPL)
	15.0	J7	3	7	15	21		(15.00) Gray Clayey Silty SAND, slight petrochemical odor (GLACIAL SOILS)	(M-NPL)
	20.0	J8	15	11	26	20		(20.00) Gray to Gray-Brown Silty SAND (GLACIAL SOILS)	(M-NPL)
	25.0	R1						(23.00) Run #1 Drilled from 23'0" to 28'0" ROCK REC. 25" 42%, 3 pieces and fragments, intensely fractured	

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DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

SHEET 1 OF 2 HOLE DN-B-156

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 156
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-156
LINE
STA
OFFSET ft
SURF. ELEV. 28.5 (EST.)
DEPTH TO WATER SEE NOTE

SCALED COORDINATES (N) 236,158.858 (E) 1,012,975.554 **DATUM** NAD83
DATE START 21-Jun-2021 **DATE FINISH** 22-Jun-2021

CASING	**O. D.**	4-1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1-3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(28.00) Run #2 Drilled from 28'0" to 33'0" ROCK REC. 13" 22%, 1 piece and fragments, very intensely to intensely fractured
	30.0							
		R3						(33.00) Run #3 Drilled from 33'0" to 38'0" ROCK REC. 43" 72%, 67 pieces and fragments, intensely to moderately fractured
	35.0							
		R4						(38.00) Run #4 Drilled from 38'0" to 43'0" ROCK REC. 15" 25%, 2 pieces and fragments, intensely to moderately fractured
	40.0							

BOTTOM OF HOLE AT 43.00 ft

Notes:
1. Rig CME-55, hammer automatic.
2. Depth to water not recorded.
3. Vertical Datum NAVD88

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Irwin
SOIL & ROCK DESCRIPTION J. Rogovin

STRUCTURE NAME Bruckner Exp Ramp BL
B.I.N. 1066669

CONTRACT D900051 **CONTRACTOR** Jersey Boring & Drilling

PSN BORNUM 05 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-W-05 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 6.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 6.0 (Est.)
EVALUATION DATE 5/13/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	25	30	97	73	14 pieces	Rock type(s): Schist Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 10°, 25°, 20°, 0°, 30°, 35°, 45°, 0°, 10°, 10°, 0°, 10°, 15° Size range of pieces: fragments to 0.9' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-2	30	35	100	82	12 pieces	Rock type(s): Schist Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 10°, 45°, 30°, 0°, 0°, 35°, 10°, 10°, 10°, 0°, 20° Size range of pieces: 0.2' to 1.1' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh

BOTTOM OF EXPLORATION 35.0 FT

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PSN BORNUM 06 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-W-06 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 4.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 4.5 (Est.)
EVALUATION DATE 5/10/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	27	32	83	35	11 pieces plus fragments	Rock type(s): Schistose Gneiss Color: gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 30°, 10°, 30°, 45°, 25°, 35°, 25°, 15°, 0°, 20° Size range of pieces: fragments to 0.6' Hardness: moderately soft to hard Degree of weathering: moderately to slightly weathered
R-2	32	37	92	50	12 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 0°, 20°, 20°, 75°, 10°, 0°, 40°, 25°, 25°, 0° Size range of pieces: fragments to 0.7' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered

BOTTOM OF EXPLORATION 37.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 07 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-W-07 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 10.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 10.0 (Est.)
EVALUATION DATE 5/14/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	21	26	95	65	7 pieces plus fragments	Rock type(s): Schistose Gneiss Color: gray to green with slight brown discoloration Mineralogy, Grain Size & Texture: mica/quartz/feldspar, very fine to very coarse grained, foliated/banded Bedding: very thin to very coarsely-foliated/banded Fracture density: intensely to moderately fractured Fracture angles: 60°, 10°, 10°, 60°, 35°, 60° Size range of pieces: fragments to 1.6' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	26	31	97	80	10 pieces	Rock type(s): Schistose Gneiss Color: gray to green with slight brown discoloration Mineralogy, Grain Size & Texture: mica/quartz/feldspar, very fine to very coarse grained, foliated/banded Bedding: very thin to thinly-foliated/banded Fracture density: intensely to moderately fractured Fracture angles: 45°, 45°, 35°, 20°, 35°, 25°, 25°, 30°, 10° Size range of pieces: 0.3 to 0.9' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered

BOTTOM OF EXPLORATION 31.0 FT

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PSN BORNUM 08 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-W-08 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 0.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 0.5 (Est.)
EVALUATION DATE 5/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	29.5	34.5	100	77	7 pieces plus fragments	Rock type(s): Schist and Quartzite Color: light gray to gray with rust colored discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained; quartz, coarse to very coarse grained, foliated Bedding: very thin to coarsely-foliated/banded Fracture density: moderately to slightly fractured Fracture angles: 50°, 25°, 60°, 20°, 45°,10° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: fresh to slighty weathered
R-2	34.5	39.5	100	75	8 pieces plus fragments	Rock type(s): Schist Color: light gray to gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated/banded Fracture density: moderately fractured Fracture angles: 50°, 40°, 45°, 70°, 45°, 5°, 50° Size range of pieces: fragments to 1.4' Hardness: hard to very hard Degree of weathering: fresh to moderately weathered

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PSN BORNUM 09 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-W-09 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) -14.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) -14.5 (Est.)
EVALUATION DATE 6/3/21

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	45.5	50.5	93	55	7 pieces plus fragments		Rock type(s): Schist Color: light gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained; quartz, very coarse to coarse grained, foliated/banded/massive Bedding: very thin to to thin-foliated/banded Fracture density: intensely to moderately fractured Fracture angles: 100°, 15°, 10°, 55°, 20°, 15° Size range of pieces: fragments to 1.1' Hardness: very hard to hard Degree of weathering: fresh to slightly weathered
R-2	50.5	55.5	100	70	9 pieces plus fragments		Rock type(s): Schist Color: light gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained; foliated/banded/massive Bedding: very thin to to thin-foliated/banded Fracture density: moderately fractured Fracture angles: 15°, 0°, 45°, 35°, 30°, 5°, 20°, 15°, 40° Size range of pieces: fragments to 0.8' Hardness: very hard to hard Degree of weathering: fresh to slightly weathered

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PSN BORNUM 125 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-125 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 9.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 9.0 (Est.)
EVALUATION DATE 6/4/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	22	27	100	75	10 pieces plus fragments		Rock type(s): Schist and Quartzite Color: schist - light gray to dark gray Mineralogy, Grain Size & Texture: mica - very fine to fine, foliated; quartzite - coarse to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 55*, 5*, 10*, 20*, 5*, 10*, 5*, 0*, 10* Size range of pieces: fragments to 0.5' Hardness: hard to very hard Degree of weathering: fresh to slightly
R-2	27	32	100	62	8 pieces plus fragments		Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 10*, 20*, 5*, 0*, 30*, 50*, 0* Size range of pieces: fragments to 0.8' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-3	32	37	100	67	8 pieces plus fragments		Rock type(s): Schist Color: gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine tofine grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 25*, 35*, 50*, 0*, 55*, 30*, 20* Size range of pieces: fragments to 1.0' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-4	37	42	100	83	8 pieces plus fragments		Rock type(s): Schist Color: gray to dark gray Mineralogy, Grain Size & Texture: mica - very fine to fine, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 45*, 50*, 15*, 5*, 20*, 30*, 20* Size range of pieces: fragments to 1.1' Hardness: hard to very hard Degree of weathering: fresh to slightly
R-5	42	47	100	85	6 pieces plus fragments		Rock type(s): Schist and Quartzite Color: schist - light gray to drak gray Mineralogy, Grain Size & Texture: mica - very fine to fine, foliated; quartzite - coarse to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 0*, 45*, 30*, 50*, 30* Size range of pieces: fragments to 0.8' Hardness: hard to very hard Degree of weathering: fresh to slightly
							BOTTOM OF EXPLORATION 47.0 FT

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PSN BORNUM 126 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-126 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 4.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 4.5 (Est.)
EVALUATION DATE 6/8/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log (Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	27	32	100	33	11 pieces plus fragments	Rock type(s): Schist Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 10*, 0*, 0*, 15*, 20*, 25*, 35*, 35*, 10*, 10* Size range of pieces: fragments to 0.6' Hardness: moderately to slightly hard Degree of weathering: moderately to slightly
R-2	32	37	100	45	9 pieces plus fragments	Rock type(s): Schist Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 10*, 30*, 0*, 30*, 35*, 0*, 50*, 45* Size range of pieces: fragments to 0.6' Hardness: moderately to slightly hard Degree of weathering: moderately to slightly
R-3	37	42	100	52	10 pieces plus fragments	Rock type(s): Schist Color: dark gray discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 5*, 15*, 30*, 35*, 10*, 15*, 10*, 0*, 0*, 10* Size range of pieces: fragments to 0.9' Hardness: hard to very hard Degree of weathering: fresh to slightly
R-4	42	47	100	50	13 pieces plus fragments	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 5*, 35*, 25*, 40*, 20*, 25*, 5*, 30*, 10*, 5*, 15*, 15* Size range of pieces: fragments to 0.8' Hardness: hard to very hard Degree of weathering: fresh to slightly

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PSN BORNUM 127 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-127 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 10.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 10.0 (Est.)
EVALUATION DATE 5/7/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20	25	20	20	2 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 25° Size range of pieces: fragments to 0.5' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	25	30	88	78	8 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 35°, 45°, 30°, 10°, 10°, 10°, 0° Size range of pieces: fragments to 1.4' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-3	30	35	98	80	9 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 10°, 10°, 0°, 20°, 10°, 10°, 0°, 20° Size range of pieces: 0.2 to 1.3' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 35.0 FT

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PSN BORNUM 128 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-128 *Page 1 of 1*

SURFACE ELEVATION (ft) 28.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 4.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 4.5 (Est.)
EVALUATION DATE 5/10/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	24	29	92	52	11 pieces plus fragments	Rock type(s): Schistose Gneiss Color: gray \with slight brown discoloration Mineralogy, Grain Size & Texture: mica/quartz/feldspar, very fine to very coarse grained, foliated/banded Bedding: very thin to thinly-foliated, very thin to thinly-banded Fracture density: intensely to moderately fractured Fracture angles: 10°, 25°, 25°, 30°, 20°, 10°,10°, 10°, 20° Size range of pieces: fragments to 1.1' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-2	29	34	90	78	6 pieces	Rock type(s): Schistose Gneiss Color: gray \with slight brown discoloration Mineralogy, Grain Size & Texture: mica/quartz/feldspar, very fine to very coarse grained, foliated/banded Bedding: very thin to thinly-foliated, very thin to thinly-banded Fracture density: moderately to slightly fractured Fracture angles: 20°, 10°, 55°, 10°, 20° Size range of pieces: 0.3 to 1.2' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 34.0 FT

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PSN BORNUM 129 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-129 *Page 1 of 1*

SURFACE ELEVATION (ft) 29.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 2.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 2.0 (Est.)
EVALUATION DATE 4/13/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	27	32	100	77	17 pieces	Rock type(s): Schist Color: light to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 0°, 55°, 60°, 10°, 50°, 75°, 25°, 15°, 0°, 20°, 20°, 0°, 35°, 5°, 20°, 15° Size range of pieces: fragments to 1.0' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	32	37	100	93	8 pieces	Rock type(s): Schist Color: light to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 70°, 35°, 10°, 35°, 40°, 25°, 25° Size range of pieces: 0.3 to 1.2' Hardness: hard to very hard Degree of weathering: slightlyly weathered to frsh
R-3	37	42	97	83	10 pieces	Rock type(s): Schist Color: light gray to gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 35°, 70°, 5°, 65°, 20°, 30°, 10°, 10°, 10° Size range of pieces: fragments to 1.2' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-4	42	47	72	42	8 pieces plus fragments	Rock type(s): Schist Color: light gray to gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 50°, 10°, 5°, 5°, 45°, 30°, 35°, 25° Size range of pieces: fragments to 0.75' Hardness: soft to hard Degree of weathering: highly to slightly weathered
						BOTTOM OF EXPLORATION 47.0 FT

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PSN BORNUM 130 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-130 *Page 1 of 1*

SURFACE ELEVATION (ft) 29.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 4.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 4.0 (Est.)
EVALUATION DATE 4/15/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	25	30	80	50	10 pieces plus fragments		Rock type(s): Schistose Gneiss Color: light gray to gray with red-brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 35°, 45°, 50°, 25°, 5°, 30°, 50°, 30°, 55° Size range of pieces: fragments to 0.9' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered Bottom 7" of sample is quartzite and gneiss
R-2	30	35	97	93	7 pieces		Rock type(s): Schistose Gneiss Color: gray to kught gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 55°, 35°, 30°, 30°, 25°, 15° Size range of pieces: fragments to 1.2' Hardness: ard to very hard Degree of weathering: fresh to slightly weathered
R-3	35	40	97	95	10 pieces and fragments		Rock type(s): Schistose Gneiss Color: light gray to gray with red-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 10°, 5°, 45°, 20°, 10°, 20°, 10°, 5°, 25° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-4	40	45	98	88	11 pieces		Rock type(s): Schistose Gneiss Color: light gray to gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 15°, 20°, 25°, 50°, 5°, 5°, 25°, 15°, 30°, 25° Size range of pieces: 0.3 to 1.1' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
							BOTTOM OF EXPLORATION 45.0 FT

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PSN BORNUM 131 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-131 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 15.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 15.0 (Est.)
EVALUATION DATE 4/15/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	15	20	92	78	8 pieces	Rock type(s): Schist Color: gray to dark gray with red-brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 20°, 30°, 30°, 30°, 30°, 20°, 30° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: highly to moderately weathered
R-2	20	25	98	80	7 pieces	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 45°, 35°, 30°, 20°, 40°, 5° Size range of pieces: 0.3 to 1.5' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-3	25	30	88	67	11 pieces plus fragments	Rock type(s): Schistose Gneiss Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 40°, 20°, 30°, 30°, 30°, 30°, 10°, 30°, 60°, 55°, 15°, 30° Size range of pieces: fragments to 0.9' Hardness: moderately soft to hard Degree of weathering: highly to completely weathered
R-4	30	35	98	88	8 pieces	Rock type(s): Schistose Gneiss Color: light gray to gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: 55°, 50°, 30°, 20°, 30°, 40°, 20° Size range of pieces: fragments to 1.5' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-5	35	40	93	80	10 pieces	Rock type(s): Schistose Gneiss Color: light gray to gray with brown discolorations Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 25°, 30°, 20°, 25°, 25°, 30°, 15°, 40°, 20° Size range of pieces: fragments to 0.9' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 40.0 FT

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PSN BORNUM 132 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-132 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 14.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 14.0 (Est.)
EVALUATION DATE 4/13/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	16	21	72	10	9 pieces	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 90°, 0°, 90°, 40°, 30°, 80°, 40°, 20° Size range of pieces: fragments to 1.3' Hardness: moderately soft to moderately hard Degree of weathering: highly to moderately weathered
R-2	21	26	98	80	14 pieces	Rock type(s): Schist Color: light gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 65°, 10°, 50°, 35°, 0°, 40°, 15°, 55°, 50°, 10°, 40°, 10°, 50° Size range of pieces: fragments to 0.8' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-3	26	31	100	90	7 pieces	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 60°, 35°, 50°, 35°, 25°, 30° Size range of pieces: fragments to 1.9' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-4	31	36	98	80	11 pieces	Rock type(s): Schist Color: light gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 35°, 35°, 25°, 10°, 10°, 10°, 10°, 25°, 20°, 25° Size range of pieces: fragments to 1.1' Hardness: moderately hard to hard Degree of weathering: highly to slightly weathered
R-5	36	41	97	85	10 pieces	Rock type(s): Schist Color: light gray to dark gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 45°, 50°, 50°, 40°, 30°, 35°, 60°, 30° Size range of pieces: fragments to 0.75' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 41.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 133 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-133 *Page 1 of 2*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 11.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.0 (Est.)
EVALUATION DATE 4/28/2021

Comments: Note: Very hard drilling conditions from 35 to 50 ft. May be reason for poor recovery. Driller notes issue with 3" casing and core barrel.

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20	25	93	67	13 pieces		Rock type(s): Schist and Quartzite Color: gray to white to pink Mineralogy, Grain Size & Texture: mica, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 10°, 0°, 0°, 10°, 10°, 10°, 5°, 10°, 15°, 5°, 5°, 0° Size range of pieces: fragments to 1.0' Hardness: moderately hard to very hard Degree of weathering: slightly weathered
R-2	25	30	77	77	3 pieces		Rock type(s): Quartzite Color: white to gray to pink Mineralogy, Grain Size & Texture: medium to very coarse grained, foliated/massive Bedding: none Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 5°, 25° Size range of pieces: 0.7 to 2.8' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-3	30	35	98	90	8 pieces		Rock type(s): Quartzite and Schist Color: gray to white Mineralogy, Grain Size & Texture: mica, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 15°, 10°, 5°, 0°, 20°, 55°, 35° Size range of pieces: fragments to 2.1' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-4	35	40	8	0	2 pieces		Rock type(s): Schist Color: gray to white to pink Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: Size range of pieces: 0.2 to 0.3' (approximately) Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-5	40	45	93	85	5 pieces		Rock type(s): Schist and Quartzite Color: gray to white Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 45°, 60°, 0°, 10° Size range of pieces: fragments to 2.4' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh

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PSN BORNUM 133 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-133 *Page 2 of 2*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 11.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.0 (Est.)
EVALUATION DATE 4/28/2021

Comments: Note: Very hard drilling conditions from 35 to 50 ft. May be reason for poor recovery. Driller notes issue with 3" casing and core barrel.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-6	45	50	100	100	4 pieces		Rock type(s): Schist Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: sub-horizontal 40°, 10°, 25° Size range of pieces: 0.7 to 2.8' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh

BOTTOM OF EXPLORATION 50.0 FT

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PSN BORNUM 134 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-134 *Page 1 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 11.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.5 (Est.)
EVALUATION DATE 4/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20	25	90	68	9 pieces	Rock type(s): Schist and Quartzite Color: schist - light gray to dark gray; quartzite - white to gray Mineralogy, Grain Size & Texture: mica - fine to medium, foldiated; quartzite - very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 40°, 25°, 75°, 40°, 20°, 25°, 0° Size range of pieces: fragments to 1.5' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered Quartzite at 21 to 22.7'
R-2	25	30	98	85	10 pieces	Rock type(s): Schist Color: light gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: moderately fractured Fracture angles: 10°, 5°, 90°, 30°, 35°, 30°, 40°, 35°, 35° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: highly to slightly weathered
R-3	30	35	92	77	7 pieces	Rock type(s): Schist Color: light gray with brown discoloration Mineralogy, Grain Size & Texture: mica, fine to very fine grained, foliated Bedding: thin to very thinly-foliated Fracture density:slightly fractured Fracture angles: 20°, 10°, 30°, 0°, 10° Size range of pieces: fragments to 1.7' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-4	35	40	98	98	4 pieces	Rock type(s): Schist Color: gray to dark gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: slightly fractured Fracture angles: 35°, 30°, 40°, 50° Size range of pieces: 0.8 to 2.2' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-5	40	45	97	85	7 pieces	Rock type(s): Schist Color: dark gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: thin to very thinly-foliated Fracture density: slightly to moderately fractured Fracture angles: 5°, 30°, 30°, 50°, 30°, 0° Size range of pieces: 0.3 to 2.7' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered

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PSN BORNUM 134 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-134 *Page 2 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 11.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.5 (Est.)
EVALUATION DATE 4/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-6	45	50	90	87	5 pieces		Rock type(s): Schist and Quartzite Color: schist - light gray to dark gray/ quartzite - white to gray Mineralogy, Grain Size & Texture: mica - very fine to medium grained, foliated; quartzite - very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 0°, 35°, 10°, 10° Size range of pieces: fragments to 2.3' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered

BOTTOM OF EXPLORATION 50.0 FT

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PSN BORNUM 135 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-135 *Page 1 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 15.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 15.5 (Est.)
EVALUATION DATE 4/9/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	16	21	85	55	12 pieces		Rock type(s): Schistose Gneiss Color: dark gray to gray with brown and yellow discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 0°, 65°, 40°, 30°, 75°, 0°, 0°, 0°, 0°, 10° Size range of pieces: fragments to 0.75' Hardness: moderately hard to hard Degree of weathering: slightly to moderately weathered
R-2	21	26	100	100	4 pieces		Rock type(s): Schistose Gneiss Color: gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: foliation not visible Fracture density: slightly to very slightly fractured Fracture angles: 10°, 0°, 65° Size range of pieces: 0.5 to 3.6' Hardness: moderately hard to hard Degree of weathering: slightly to moderately weathered
R-3	26	31	98	98	2 pieces		Rock type(s): Schistose Gneiss Color: gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: vfoliation not visible Fracture density: not fractured Fracture angles: 15° Size range of pieces: 0.3 to 4.7' Hardness: moderately hard to hard Degree of weathering: slightly to moderately weathered
R-4	31	36	95	95	2 pieces		Rock type(s): Schistose Gneiss Color: dark gray to gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to medium grained, foliated Bedding: medium to thinly-foliated Fracture density: slightly to very slightly fractured Fracture angles: 10° Size range of pieces: 1.8 to 3.0' Hardness: moderately hard to hard Degree of weathering: fresh to slightly weathered
R-5	36	41	90	85	8 pieces		Rock type(s): Schistose Gneiss Color: dark gray to gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to slightly fractured Fracture angles: 45°, 0°, 75°, 40°, 0°, 0°, 0° Size range of pieces: fragments to 2.0' Hardness: moderately hard to hard Degree of weathering: slightly to moderately weathered

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PSN BORNUM 135 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-135 *Page 2 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 15.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 15.5 (Est.)
EVALUATION DATE 4/9/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-6	41	46	88	75	6 pieces	Rock type(s): Schistose Gneiss Color: light gray to gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: 55°, 10°, 10°, 0°, 0° Size range of pieces: fragments to 1.7' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-7	46	51	47	40	4 pieces	Rock type(s): Schistose Gneiss Color: light gray to gray Mineralogy, Grain Size & Texture: mica, very fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: 0°, 0°, 15° Size range of pieces: 0.3 to 2.0' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
						BOTTOM OF EXPLORATION 51.0 FT

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PSN BORNUM 136 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-136 *Page 1 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 16.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 16.5 (Est.)
EVALUATION DATE 4/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	15	20	87	57	10 pieces	Rock type(s): Schist Color: gray to dark gray with yellow-brown and red-brown discolorations Mineralogy, Grain Size & Texture: mica and quartz, fine to coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 20°, 80°, 70°, 20°, 0°, 50°, 10°, 10° Size range of pieces: fragments to 0.7' Hardness: very soft to very hard Degree of weathering: highly to slightly weathered
R-2	20	25	100	88	7 pieces	Rock type(s): Schist with Quartzite inclusions Color: light gray to gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 20°, 10°, 20°, 0°, 5°, 5° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: slightly to moderately weathered
R-3	25	30	92	92	2 pieces	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica, fine to very fine grained, foliated Bedding: thin to very thinly-foliated Fracture density: very slightly fractured Fracture angles: 20° Size range of pieces: 0.4 to 4.2' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-4	30	35	97	97	3 pieces	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: thin to very thinly-foliated Fracture density: slightly fractured Fracture angles: 10°, 0° Size range of pieces: 0.8 to 4.1' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-5	35	40	87	83	5 pieces	Rock type(s): Schistose Gneiss Color: dark gray with rusty brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: moderately fractured Fracture angles: 10°, 0°, 0°, 5° Size range of pieces: fragments to 1.5' Hardness: very soft to very hard Degree of weathering: highly to moderately weathered

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PSN BORNUM 136 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-136 *Page 2 of 2*

SURFACE ELEVATION (ft) 31.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 16.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 16.5 (Est.)
EVALUATION DATE 4/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-6	40	45	97	97	5 pieces	Rock type(s): Schistose Gneiss Color: light gray to dark gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 10°, 20°, 10°, 25° Size range of pieces: 0.4 to 1.9' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-7	45	50	95	62	16 pieces	Rock type(s): Schistose Gneiss Color: gray to dark gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 0°, 15°, 55°, 55°, 20°, 0°, 45°, 45°, 0°, 10°, 10°, 15°, 25°, 0°, 30° Size range of pieces: fragments to 1.2' Hardness: moderately hard to very hard Degree of weathering: moderately weathered to fresh

BOTTOM OF EXPLORATION 50.0 FT

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PSN BORNUM 137 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-137 *Page 1 of 1*

SURFACE ELEVATION (ft) 32.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 22.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 22.0 (Est.)
EVALUATION DATE 4/21/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	10	15	98	35	13 pieces plus fragments	Rock type(s): Schist Color: gray to dark gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 15°,15°, 15°, 10°, 10°, 20°, 25°, 25°, 30°, 15°, 0°, 0° Size range of pieces: fragments to 0.6' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	15	20	100	82	11 pieces	Rock type(s): Schist and Quartzite Color: light gray to dark gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 0°, 55°, 0°, 0°, 15°, 0°, 15°, 20° Size range of pieces: fragments to 1.2' Hardness: moderately hard to very hard Degree of weathering: fresh to slightly weathered
						BOTTOM OF EXPLORATION 20.0 FT

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PSN BORNUM 138 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-138 *Page 1 of 1*

SURFACE ELEVATION (ft) 32.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 26.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 26.5 (Est.)
EVALUATION DATE 4/21/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	6	11	88	42	16 pieces	Rock type(s): Schist and Quartzite Color: gray to dark gray to tan with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 25°, 35°, 35°, 25°, 45°, 55°, 35°, 55°, 40°, 55°, 40°, 35°, 35°, 40°, 35° Size range of pieces: fragments to 1.1' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
R-2	11	16	93	45	11 pieces plus fragments	Rock type(s): Schist Color: gray to tan with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 15°, 40°, 0°, 90°, 10°, 25°, 50°, 45°, 45°, 45° Size range of pieces: fragments to 0.8' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 16.0 FT

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PSN BORNUM 139 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-139 *Page 1 of 1*

SURFACE ELEVATION (ft) 34.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 29.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 29.5 (Est.)
EVALUATION DATE 4/21/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	5	10	95	90	6 pieces	Rock type(s): Schist Color: gray to dark gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: 20°, 15°, 15°, 0°, 10° Size range of pieces: 0.3 to 1.2' Hardness: moderately soft to hard Degree of weathering: moderately to slightly weathered
R-2	10	15	80	75	5 pieces	Rock type(s): Schist Color: gray to dark gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 25°, 25°, 45°, 10° Size range of pieces: 0.3 to 1.3' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 15.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 140 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-140 *Page 1 of 1*

SURFACE ELEVATION (ft) 35.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 30.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 30.0 (Est.)
EVALUATION DATE 4/15/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	5	10	93	58	16 pieces plus fragments	Rock type(s): Schist Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 10°, 20°, 10°, 40°, 15°, 20°, 25°, 25°, 20°, 25°, 15°, 15°, 15°, 20°, 25° Size range of pieces: fragments to 0.6' Hardness: soft to hard Degree of weathering: highly to moderately weathered
R-2	10	15	98	92	11 pieces	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 5°, 10°, 25°, 15°, 30°, 45°, 30°, 20°, 20°, 10° Size range of pieces: fragments to 1.0' Hardness: moderately hard to hard Degree of weathering: highly to slightly weathered
R-3	15	20	92	55	10 pieces plus fragments	Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 30°, 25°, 30°, 40°, 30°, 20°, 15°, 50°, 15° Size range of pieces: fragments to 0.9' Hardness: very soft to very hard Degree of weathering: completely to slightly weathered
						BOTTOM OF EXPLORATION 20.0 FT

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PSN BORNUM 141 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-141 *Page 1 of 1*

SURFACE ELEVATION (ft) 35.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 29.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 29.0 (Est.)
EVALUATION DATE 4/15/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	6	11	72	42	14 pieces	Rock type(s): Schist Color:dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 20°, 15°, 10°, 10°, 60°, 20°, 45°, 0°, 0°, 20°, 5°, 5° Size range of pieces: fragments to 0.8' Hardness: moderately soft to very hard Degree of weathering: highly to slightly weathered
R-2	11	16	97	73	11 pieces plus fragments	Rock type(s): Schist Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 30°, 50°, 25°, 15°, 10°, 25°, 15°, 30°, 45°, 50° Size range of pieces: fragments to 0.9' Hardness: moderately soft to very hard Degree of weathering: highly to slightly weathered
R-3	16	21	92	63	7 pieces plus fragments	Rock type(s): Schist with Quartzite inclusion Color: schist - dark gray with brown discoloration; quartzite - white to light gray Mineralogy, Grain Size & Texture: mica - very fine to fine, foliated; quartzite - coarse to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 65°, 60°, 30°, 5°, 30°, 60° Size range of pieces: fragments to 0.7' Hardness: soft to very hard Degree of weathering: residual soil to hardly weathered

BOTTOM OF EXPLORATION 21.0 FT

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PSN BORNUM 142 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-142 *Page 1 of 1*

SURFACE ELEVATION (ft) 36.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 26.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 26.5 (Est.)
EVALUATION DATE 4/21/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	10	15	98	78	10 pieces	Rock type(s): Schistose Gneiss Color: gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 45°, 30°, 60°, 35°, 20°, 20°, 35°, 25°, 80° Size range of pieces: fragments to 1.2' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	15	20	100	73	10 pieces plus fragments	Rock type(s): Schist Color: gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: 25°, 20°, 20°, 30°, 0°, 20°, 15°, 80°, 25° Size range of pieces: fragments to 1.4' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 20.0 FT

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PSN BORNUM 143 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-143 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 26.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 26.0 (Est.)
EVALUATION DATE 4/21/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	11	16	63	25	6 pieces plus fragments		Rock type(s): Schist with Quartzite inclusions Color:gray to white with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 20°, 0°, 10°, 20°, 40° Size range of pieces: fragments to 0.5' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-2	16	21	45	15	4 pieces plus fragments		Rock type(s): Schist Color: gray to white with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 25°, 0°, 40° Size range of pieces: fragments to 0.4' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-3	21	26	35	7	5 pieces plus fragments		Rock type(s): Schist Color: gray to tan with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 10°, 80°, 25°, 20° Size range of pieces: fragments to 10.5' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
							BOTTOM OF EXPLORATION 26.0 FT

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PSN BORNUM 144 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-144 *Page 1 of 1*

SURFACE ELEVATION (ft) 38.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 28.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 28.0 (Est.)
EVALUATION DATE 4/20/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	10	15	60	0	9 pieces plus fragments		Rock type(s): Schist Color: dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: 25°, 35°, 20°, 30°, 15°, 15°, 15°, 20° Size range of pieces: fragments to 0.25' Hardness: moderately soft to hard Degree of weathering: completely to highly weathered
R-2	15	20	97	58	15 pieces		Rock type(s): Schist Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 20°, 20°, 20°, 25°, 30°, 25°, 25°, 30°, 30°, 45°, 20°, 25°, 20°, 35° Size range of pieces: fragments to 0.75' Hardness: moderately soft to hard Degree of weathering: highly to slightly weathered
R-3	20	25	95	92	7 pieces		Rock type(s): Schist Color: light gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 25°, 20°, 25°, 40°, 30°, 20°, 25° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: slightly weathered to fesh
							BOTTOM OF EXPLORATION 25.0 FT

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PSN BORNUM 145 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-145 *Page 1 of 2*

SURFACE ELEVATION (ft) 37.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY S. Bruni

ELEVATION TOP OF ROCK (ft) 17.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 17.5 (Est.)
EVALUATION DATE 4/8/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R1	10	12	50	NA	2 pieces	Rock type(s): Schist Color: light gray to tan with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, medium to coarse grained, foliated Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 20° Size range of pieces: fragments to 0.5' Hardness: moderately hard to hard Degree of weathering: slightly weathered See Boring Log for Overburden Description.
R2	20	25	97	90	9 pieces plus fragments	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, quartz, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 20°, 60°, 20°, 20°, 20°, 20°, 20°, 20° Size range of pieces: fragments to 0.75' Hardness: hard to nery hard Degree of weathering: slightly weathered
R3	25	30	88	72	7 pieces plus fragments	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, quartz, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 30°, 30°, 15°, 15°, 30°, 10° Size range of pieces: fragments to 1.7' Hardness: hard to very hard Degree of weathering: slightly weathered
R4	30	35	100	100	4 pieces	Rock type(s): Schistose Gneiss Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, quartz, fine to coaarse grained, foliated Bedding: thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 30°, 30°, 20° Size range of pieces: fragments to 1.0 to 1.8' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 145 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-145 *Page 2 of 2*

SURFACE ELEVATION (ft) 37.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY S. Bruni

ELEVATION TOP OF ROCK (ft) 17.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 17.5 (Est.)
EVALUATION DATE 4/8/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R5	35	40	92	78	7 pieces		Rock type(s): Schistose Gniess Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, quartz, fine to coarse grained, foliated Bedding: thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 20°, 30°, 20°, 20°, 35°, 35° Size range of pieces: 0.25 to 1.7' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh

BOTTOM OF EXPLORATION 40.0 FT

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PSN BORNUM 146 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-146 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.8 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 15.8 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 15.8 (Est.)
EVALUATION DATE 4/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log (Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	22	27	68	58	9 pieces	Rock type(s): Schist with Quartzite inclusion Color: light gray with yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 20°, 45°, 25°, 25°, 0°, 45°, 60° Size range of pieces: fragments to 1' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-2	27	32	90	90	5 pieces	Rock type(s): Schistose Gneiss Color: light gray to gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to nery thinly-foliated Fracture density: slightly fractured Fracture angles: 45°, 30°, 40°, 40° Size range of pieces: 0.25 to 2' Hardness: hard to very hard Degree of weathering: fresh to slightly weathered
R-3	32	37	80	80	7 pieces	Rock type(s): Schistose Gneiss Color: gray to dark gray with brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: thin to very thinly-foliated Fracture density: slightly fractured Fracture angles: 0°, 0°, 15°, 20°, 35°, 85° Size range of pieces: fragments to 1.7' Hardness: hard to very hard Degree of weathering: slightly to moderately weathered
R-4	37	42	98	60	14 pieces	Rock type(s): Schistose Gneiss Color: light gray Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: 25°, 20°, 25°, 30°, 20°, 25°, 75°, 55°, 65°, 10°, 80°, 25° Size range of pieces: fragments 1' Hardness: hard to very hard Degree of weathering: slightly to moderately weathered
R-5	42	47	98	98	5 pieces	Rock type(s): Schistose Gneiss Color: light gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to medium grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: 75°, 25°, 25°, 20° Size range of pieces: 0.8 to 1.3' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 47.0 FT

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PSN BORNUM 147 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-147 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.3 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY S. Bruni

ELEVATION TOP OF ROCK (ft) 11.3 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.3 (Est.)
EVALUATION DATE 4/5/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R1	26	31	78	60	8 pieces	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 25°, 15°, 15°, 70°, 15°, 20° Size range of pieces: 0.25 to 0.8' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R2	31	36	98	55	12 pieces	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: moderately to intensely fractured Fracture angles: sub-horizontal, 20°, 20°, 70°, 20°, 15°, 15°,15°, 15°, 10° Size range of pieces: 0.1 to 1.75' Hardness: hard to moderately hard Degree of weathering: slightly to moderately weathered
						BOTTOM OF EXPLORATION 36.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 148 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-148 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.3 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY S. Bruni

ELEVATION TOP OF ROCK (ft) 9.3 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 9.3 (Est.)
EVALUATION DATE 4/5/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R1	28	33	63	60	3 pieces	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 20°, 30° Size range of pieces: 0.33 to 2.1' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R2	33	38	80	58	7 pieces	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 30°, 60°, 45°, 20°, 20°, 20° Size range of pieces: 0.25 to 1.3' Hardness: moderately hard to hard Degree of weathering: moderately weathered
R3	38	43	100	90	4 pieces	Rock type(s): Schist Color: gray to light gray with yellowish-brown discoloration Mineralogy, Grain Size & Texture: mica, fine to medium grained, foliated Bedding: thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 80°, 20°, 15°, 70° Size range of pieces: 0.5 to 1.0' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 43.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 149 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-149 *Page 1 of 1*

SURFACE ELEVATION (ft) 38.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 11.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 11.5 (Est.)
EVALUATION DATE 4/22/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	27	32	95	75	10 pieces	Rock type(s): Schist Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 20°, 10°, 20°, 45°, 10°, 0°, 20°, 0°, 0° Size range of pieces: fragments to 1.0' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-2	32	37	100	88	5 pieces plus fragments	Rock type(s):Schist and Quartzite Color: gray to white Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density:moderately to slightly fractured Fracture angles: sub-horizontal 0°, 20°, 0°, 45° Size range of pieces: fragmentst to 2.2' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 37.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 150 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-150 *Page 1 of 1*

SURFACE ELEVATION (ft) 42.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 23.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 23.0 (Est.)
EVALUATION DATE 4/22/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	19	24	83	28	12 pieces plus fragments	Rock type(s): Schist Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal 15°, 0°, 20°, 20°, 20°, 15°, 25°, 25°, 0°, 0°, 0° Size range of pieces: fragments 0.6' Hardness: moderately hard to hard Degree of weathering: highly to slightly weathered
R-2	24	29	95	90	6 pieces	Rock type(s): Schistose Gneiss Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 10°, 15°, 0°, 10°, 10° Size range of pieces: 0.3 to 1.1' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 29.0 FT

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PSN BORNUM 151 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-151 *Page 1 of 1*

SURFACE ELEVATION (ft) 44.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 22.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 22.0 (Est.)
EVALUATION DATE 4/22/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	22	27	83	70	9 pieces	Rock type(s): Schistose Gneiss Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 35°, 0°, 25°, 10°, 15°, 10°, 10°, 10° Size range of pieces: 0.2 to 0.8' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-2	27	32	90	90	5 pieces	Rock type(s): Schistose Gneiss Color: gray with slight yellow-brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 0°, 25°, 30°, 50° Size range of pieces: 0.7 to 1.3' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
						BOTTOM OF EXPLORATION 32.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 152 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-152 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 10.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 10.0 (Est.)
EVALUATION DATE 4/30/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20	25	73	40	7 pieces and fragments	Rock type(s):Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 0°, 10°, 15°, 0°, 10°, 10° Size range of pieces: fragments to 0.6' Hardness: moderately soft to moderately hard Degree of weathering: moderately to slightly weathered
R-2	25	30	93	72	9 pieces and fragments	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 10°, 15°, 20°, 10°, 0°, 20°, 5°, 20° Size range of pieces: fragments to 0.8' Hardness: moderately hard to hard Degree of weathering: moderately to slightly weathered
R-3	30	35	83	73	6 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 0°, 90°, 10°, 0°, 25° Size range of pieces: fragments to 1.8' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-4	35	40	97	97	6 pieces	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 20°, 0°, 10°, 45°, 10° Size range of pieces: fragments 0.3 to 1.5' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
R-5	40	45	87	72	6 pieces and fragments	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 10°, 20°, 35°, 80°, 20° Size range of pieces: fragments to 1.7' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 45.0 FT

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PSN BORNUM 153 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-153 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 10.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 10.0 (Est.)
EVALUATION DATE 4/29/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20	25	73	40	12 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 25°,20°,60°,15°,20°,40°,15°,10°,10°,10°,20° Size range of pieces: fragments to 0.5' Hardness: moderately soft to hard Degree of weathering: moderately to slightly weathered
R-2	25	30	87	83	5 pieces plus fragments	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 10°, 10°, 50°, 0° Size range of pieces: fragments to 1.3' Hardness: moderately soft to hard Degree of weathering: moderately to slightly weathered
R-3	30	35	67	43	8 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 90°, 15°, 20°, 0°, 10°, 10°, 20° Size range of pieces: 0.2 to 0.7' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
R-4	35	40	93	73	7 pieces	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 10°, 30°, 10°, 0°, 20°, 60° Size range of pieces: 0.3 to 1.2' Hardness: moderately hard to hard Degree of weathering: slightly weathered to fresh
R-5	40	45	95	90	7 pieces	Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 25°, 30°, 30°, 35°, 15°, 10° Size range of pieces: 0.3 to 1.2' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 45.0 FT

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PSN BORNUM 154 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-154 *Page 1 of 1*

SURFACE ELEVATION (ft) 30.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 5.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 5.5 (Est.)
EVALUATION DATE 5/12/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	25	30	97	85	7 pieces plus fragments	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 0°, 0°, 30°, 45°, 40°, 40° Size range of pieces: fragments to 1.0' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
R-2	30	35	98	73	10 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 15°, 25°, 0°, 10°, 80°, 0°, 20°, 15°, 10° Size range of pieces: fragments to 1.9' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
R-3	35	40	72	47	6 pieces plus fragments	Rock type(s): Schistose Gneiss with Quartzite inclusions Color: gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 0°, 70°, 10°, 30°, 15° Size range of pieces: fragments to 1.3' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-4	40	45	77	55	5 pieces	Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal 90°, 90°, 60°, 55° Size range of pieces: 0.3 to 2.8' Hardness: hard to very hard Degree of weathering: slightly weathered to fresh
						BOTTOM OF EXPLORATION 45.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

PSN BORNUM 155 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-155 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.0 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY T. Poggiogalle

ELEVATION TOP OF ROCK (ft) 6.0 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 6.0 (Est.)
EVALUATION DATE 4/28/2021

Comments:

Run#	Depth (ft) From	To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE	Descriptive Log Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-2	25	30	30	25	9 pieces and fragments		Rock type(s): Schistose Gneiss Color: gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal 20°, 40°, 40°, 0°, 40°, 5°, 0°, 55° Size range of pieces: fragments to 0.7' Hardness: moderately hard to very hard Degree of weathering: moderately to slightly weathered
R-3	30	35	88	30	8 pieces and fragments		Rock type(s): Schistose Gneiss Color: gray to white with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated/massive Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 20°, 30°, 0°, 10°, 40°, 35°, 30° Size range of pieces: fragments 0.2 to 1.2' Hardness: moderately hard to very hard Degree of weathering: slightly weathered to fresh
R-4	35	40	77	35	7 pieces and fragments		Rock type(s): Schistose Gneiss Color: gray Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal 10°, 15°, 55°, 30°, 20°, 30° Size range of pieces: fragments 0.2 to 0.6' Hardness: hard Degree of weathering: slightly weathered to fresh
R-1	40	45	81	40	6 pieces and fragments		Rock type(s): Schistose Gneiss Color: gray with slight brown discoloration Mineralogy, Grain Size & Texture: mica and quartz, very fine to very coarse grained, foliated Bedding: very thin to thinly-foliated Fracture density: slightly fractured Fracture angles: sub-horizontal 55°, 90°, 30°, 10°, 10° Size range of pieces: fragments 0.3 to 1.3' Hardness: hard Degree of weathering: slightly weathered to fresh
							BOTTOM OF EXPLORATION 45.0 FT

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PSN BORNUM 156 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-156 *Page 1 of 1*

SURFACE ELEVATION (ft) 28.5 (Est.)
CORE SIZE & BARREL TYPE NX
CORE EVALUATED BY J. Rogovin

ELEVATION TOP OF ROCK (ft) 5.5 (Est.)
ELEVATION TOP OF SOUND ROCK (ft) 5.5 (Est.)
EVALUATION DATE 6/22/2021

Comments:

Run#	Depth (ft) From	Depth (ft) To	Core Recovery %	RQD (%)	Number of pieces	ROCK TYPE / Descriptive Log (Type(s) of rock, color, grain size, texture mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	23	28	42	7	3 pieces and fragments	Rock type(s): Schist and Quartzite Color: dark gray to gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal 0°, 35° Size range of pieces: fragments to 0.3' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-2	28	33	22	0	1 piece and fragments	Rock type(s): Schist and Quartzite Color: light to dark gray Mineralogy, Grain Size & Texture: quartzite: quartz, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: very intense to intensely fractured Fracture angles: NA Size range of pieces: fragments to 0.3' Hardness: hard to very hard Degree of weathering: slightly weathered
R-3	33	38	72	52	6 pieces and fragments	Rock type(s): Schist Color: gray to dark gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 25°, 50°, 30°, 45°, 20° Size range of pieces: fragments to 1' Hardness: hard to very hard Degree of weathering: moderately to slightly weathered
R-4	38	43	25	22	2 pieces and fragments	Rock type(s): Schist Color: dark gray to gray Mineralogy, Grain Size & Texture: mica, very fine to fine grained, foliated Bedding: very thin to thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal 25° Size range of pieces: fragments to 0.8' Hardness: very hard to hard Degree of weathering: fresh to slightly weathered
						BOTTOM OF EXPLORATION 43.0 FT

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

APPENDIX B

Rock Core Photographs

SUMMARY OF ROCK CORE

GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64, CONTRACT D900051
BRONX, NEW YORK

Pier/Abutment/Structure	Boring	Run	Depth (ft)	Recovery		RQD		Photograph No.	Page No.	Rock Type
				in	%	in	%			
BL Ramp Ret Wall	DN-W-05	R1	25 -30	58	97	44	73	1	1	Schist
		R2	30 - 35	60	100	49	82	2	1	Schist
	DN-W-06	R1	27 - 32	50	83	21	35	3	2	Schistose Gneiss
		R2	32 - 37	55	92	30	50			Schistose Gneiss
	DN-W-07	R1	21 - 26	57	95	39	65	4	2	Schistose Gneiss
		R2	26 - 31	58	97	48	80			Schistose Gneiss
	DN-W-08	R1	29.5 - 34.5	60	100	46	77	5	3	Schist and Quartzite
		R2	34.5 - 39.5	60	100	45	75			Schist
	DN-W-09	R1	45.5 - 50.5	56	93	33	55	6	3	Schist
		R2	50.5 - 55.5	60	100	42	70			Schist
BL Abutment	DN-B-125	R1	22 - 27	60	100	45	75	7	4	Schist and Quartzite
		R2	27 - 32	60	100	37	62			Schist
		R3	32 - 37	60	100	40	67			Schist
		R4	37 - 42	60	100	50	83			Schist
		R5	42 - 47	60	100	51	85	8	4	Schist and Quartzite
	DN-B-126	R1	27 - 32	60	100	20	33	9	5	Schist
		R2	32 - 37	60	100	27	45			Schist
		R3	37 - 42	60	100	31	52			Schist
		R4	42 - 47	60	100	30	50	10	5	Schist
BL Pier-1	DN-B-155	R1	25 - 30	60	100	35	58	11	6	Schistose Gneiss
		R2	30 - 35	59	98	53	88			Schistose Gneiss
		R3	35 - 40	57	95	46	77			Schistose Gneiss
		R4	40 - 45	59	98	49	81	12	6	Schistose Gneiss
	DN-B-154	R1	25 - 30	58	97	51	85	13	7	Schistose Gneiss
		R2	30 - 35	59	98	44	73			Schistose Gneiss
		R3	35 - 40	43	72	28	47	14	7	Schistose Gneiss with Quartzite
		R4	40 - 45	46	77	33	55			Schistose Gneiss
BL Pier-2	DN-B-153	R1	20 - 25	44	73	24	40	15	8	Schistose Gneiss
		R2	25 - 30	52	87	50	83			Schistose Gneiss
		R3	30 - 35	40	67	26	43			Schistose Gneiss
		R4	35 - 40	56	93	44	73	16	8	Schistose Gneiss
		R5	40 - 45	57	95	54	90			Schistose Gneiss
	DN-B-152	R1	20 - 25	44	73	24	40	17	9	Schistose Gneiss
		R2	25 - 30	56	93	43	72			Schistose Gneiss
		R3	30 - 35	50	83	44	73			Schistose Gneiss
		R4	35 - 40	58	97	58	97			Schistose Gneiss
		R5	40 - 45	52	87	43	72	18	9	Schistose Gneiss

SUMMARY OF ROCK CORE

GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64, CONTRACT D900051
BRONX, NEW YORK

Pier/Abutment/Structure	Boring	Run	Depth (ft)	Recovery		RQD		Photograph No.	Page No.	Rock Type
				in	%	in	%			
BL Pier-2	DN-B-127	R1	20 - 25	12	20	12	20	19	10	Schistose Gneiss
		R2	25 - 30	53	88	47	78	20	10	Schistose Gneiss
		R3	30 - 35	59	98	48	80			Schistose Gneiss
BL Pier-3	DN-B-156	R1	23 - 28	25	42	4	7	21	11	Schist and Quartzite
		R2	28 - 33	13	22	0	0			Schist and Quartzite
		R3	33 - 38	43	72	31	52			Schist
		R4	38 - 43	15	25	13	22	22	11	Schist
	DN-B-128	R1	24 - 29	55	92	31	52	23	12	Schistose Gneiss
		R2	29 - 34	54	90	47	78			Schistose Gneiss
BL Pier-4	DN-B-129	R1	27 - 32	60	100	46	77	24	12	Schist
		R2	32 - 37	60	100	56	93			Schist
		R3	37 - 42	58	97	50	83	25	13	Schist
		R4	42 - 47	43	72	25	42			Schist
	DN-B-130	R1	25 - 30	48	80	30	50	25	13	Schistose Gneiss
		R2	30 - 35	58	97	56	93			Schistose Gneiss
		R3	35 - 40	58	97	57	95	26	13	Schistose Gneiss
		R4	40 - 45	59	98	53	88			Schistose Gneiss
BL Pier-115A	DN-B-131	R1	15 - 20	55	92	47	78	27	14	Schist
		R2	20 - 25	59	98	48	80			Schist
		R3	25 - 30	53	88	40	67			Schistose Gneiss
		R4	30 - 35	59	98	53	88	28	14	Schistose Gneiss
		R5	35 - 40	56	93	48	80			Schistose Gneiss
	DN-B-132	R1	16 - 21	43	72	6	10	29	15	Schist
		R2	21 - 26	59	98	48	80			Schist
		R3	26 - 31	60	100	54	90			Schist
		R4	31 - 36	59	98	48	80			Schist
		R5	36 - 41	58	97	51	85	30	15	Schist
BL Pier-117	DN-B-133	R1	20 - 25	56	93	40	67	31	16	Schist and Quartzite
		R2	25 - 30	46	77	46	77			Quartzite
		R3	30 - 35	59	98	54	90			Schist and Quartzite
		R4	35 - 40	5	8	0	0			Schist
		R5	40 - 45	56	93	51	85	32	16	Schist and Quartzite
		R6	45 - 50	60	100	60	100			Schist

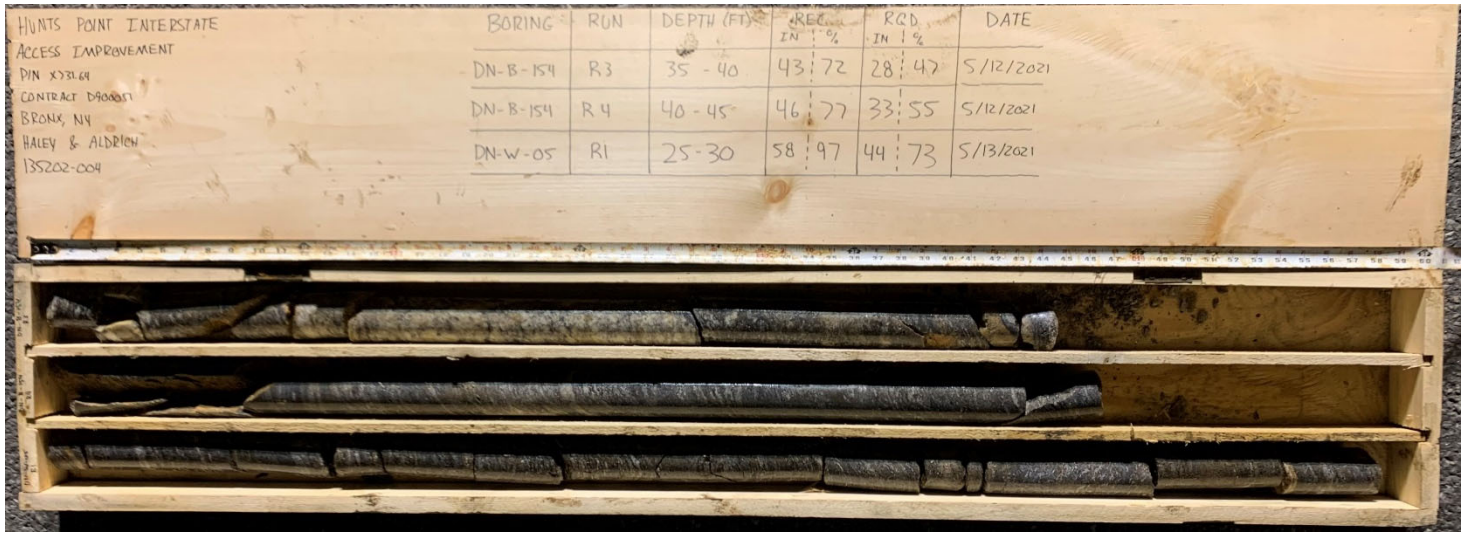
SUMMARY OF ROCK CORE
GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64, CONTRACT D900051
BRONX, NEW YORK

Pier/Abutment/Structure	Boring	Run	Depth (ft)	Recovery		RQD		Photograph No.	Page No.	Rock Type
				in	%	in	%			
BL Pier-117	DN-B-134	R1	20 - 25	54	90	41	68	33	17	Schist and Quartzite
		R2	25 - 30	59	98	51	85			Schist
		R3	30 - 35	55	92	46	77			Schist
		R4	35 - 40	59	98	59	98			Schist
		R5	40 - 45	58	97	51	85	34	17	Schist
		R6	45 - 50	54	90	52	87			Schist and Quartzite
BL Pier-118	DN-B-135	R1	16 - 21	51	85	33	55	35	18	Schistose Gneiss
		R2	21 - 26	60	100	60	100			Schistose Gneiss
		R3	26 - 31	59	98	59	98			Schistose Gneiss
		R4	31 - 36	57	95	57	95			Schistose Gneiss
		R5	36 - 41	54	90	51	85	36	18	Schistose Gneiss
		R6	41 - 46	53	88	45	75			Schistose Gneiss
		R7	46 - 51	28	47	24	40			Schistose Gneiss
BL Pier-118	DN-B-136	R1	15 - 20	52	87	34	57	37	19	Schist
		R2	20 - 25	60	100	53	88			Schist with Quartzite Inclusions
		R3	25 - 30	55	92	55	92			Schistose Gneiss
		R4	30 - 35	58	97	58	97			Schistose Gneiss
		R5	35 - 40	52	87	50	83	38	19	Schistose Gneiss
		R6	40 - 45	58	97	58	97	39	20	Schistose Gneiss
		R7	45 - 50	57	95	37	62			Schistose Gneiss
BL Pier-119	DN-B-137	R1	10 - 15	59	98	21	35	40	20	Schist
		R2	15 - 20	60	100	49	82			Schist and Quartzite
BL Pier-120	DN-B-138	R1	6 - 11	53	88	25	42	40	20	Schist and Quartzite
		R2	11 - 16	56	93	27	45			Schist
BL Pier-121	DN-B-139	R1	5 - 10	57	95	54	90	41	21	Schist
		R2	10 - 15	48	80	45	75			Schist
BL Pier-122	DN-B-140	R1	5 - 10	56	93	35	58	42	21	Schist
		R2	10 - 15	59	98	55	92			Schist
		R3	15 - 20	55	92	33	55	43	22	Schist
	DN-B-141	R1	6 - 11	43	72	25	42	43	22	Schist
		R2	11 - 16	58	97	44	73			Schist
		R3	16 - 21	55	92	38	63			Schist with Quartzite Inclusions
BL Pier-123	DN-B-142	R1	10 - 15	59	98	47	78	44	22	Schistose Gneiss
		R2	15 - 20	60	100	44	73			Schist
BL Pier-124	DN-B-143	R1	11 - 16	38	63	15	25	45	23	Schist with Quartzite Inclusions
		R2	16 - 21	27	45	9	15			Schist
		R3	21 - 26	21	35	4	7			Schist

SUMMARY OF ROCK CORE

GT-02A RAMP BL - WESTBOUND BRUCKNER EXPRESSWAY TO LEGGETT AVENUE
HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
PIN X731.64, CONTRACT D900051
BRONX, NEW YORK

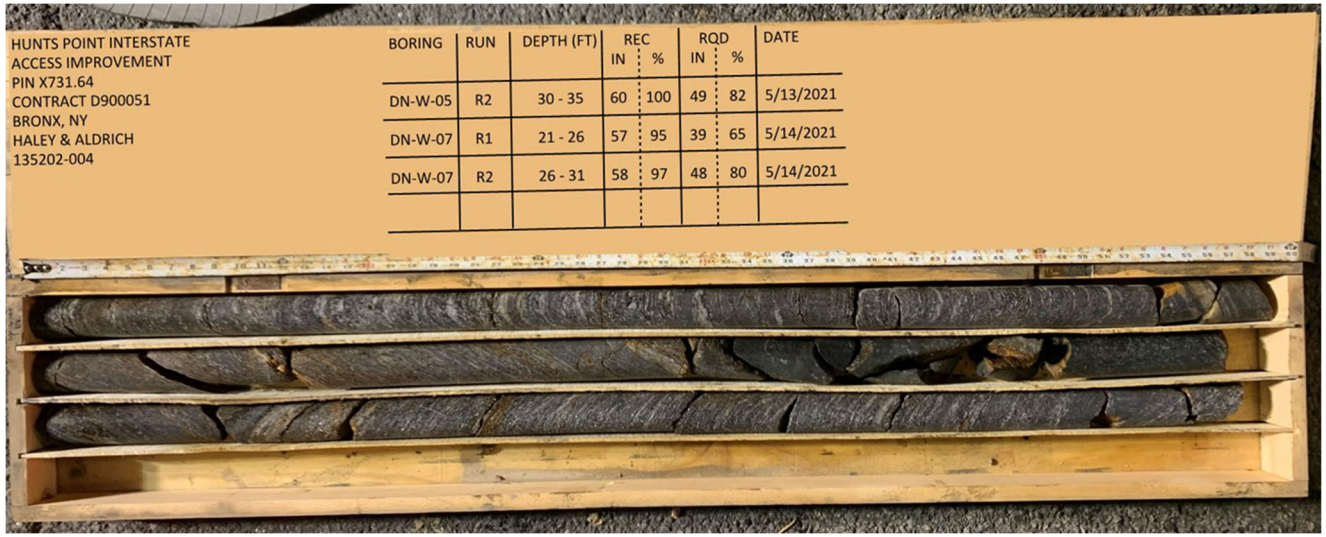
Pier/Abutment/Structure	Boring	Run	Depth (ft)	Recovery		RQD		Photograph No.	Page No.	Rock Type
				in	%	in	%			
BL Pier-125	DN-B-144	R1	10 - 15	36	60	0	0	46	23	Schist
		R2	15 - 20	58	97	35	58			Schist
		R3	20 - 25	57	95	55	92			Schist
BL Pier-126	DN-B-145	R1	10 - 12	12	50	N/A	N/A	47	24	Schist
		R2	20 - 25	58	97	54	90			Schist
		R3	25 - 30	53	88	43	72	48	24	Schist
		R4	30 - 35	60	100	60	100			Schistose Gneiss
		R5	35 - 40	55	92	47	78			Schistose Gneiss
	DN-B-146	R1	22 - 27	41	68	35	58	49	25	Schist with Quartzite Inclusions
		R2	27 - 32	54	90	54	90			Schistose Gneiss
		R3	32 - 37	48	80	48	80			Schistose Gneiss
		R4	37 - 42	59	98	36	60			Schistose Gneiss
		R5	42 - 47	59	98	59	98	50	25	Schistose Gneiss
BL Pier-127	DN-B-147	R1	26 - 31	47	78	36	60	51	26	Schist
		R2	31 - 36	59	98	33	55			Schist
BL Pier-128	DN-B-148	R1	28 - 33	38	63	36	60	52	26	Schist
		R2	33 - 38	48	80	35	58			Schist
		R3	38 - 43	60	100	54	90			Schist
BL Pier-129	DN-B-149	R1	27 - 32	57	95	45	75	53	27	Schist
		R2	32 - 37	60	100	53	88			Schist and Quartzite
BL Pier-132	DN-B-150	R1	19 - 24	50	83	17	28	54	27	Schist
		R2	24 - 29	57	95	54	90			Schistose Gneiss
BL Pier-133	DN-B-151	R1	22 - 27	50	83	42	70	54	27	Schistose Gneiss
		R2	27 - 32	54	90	54	90			Schistose Gneiss



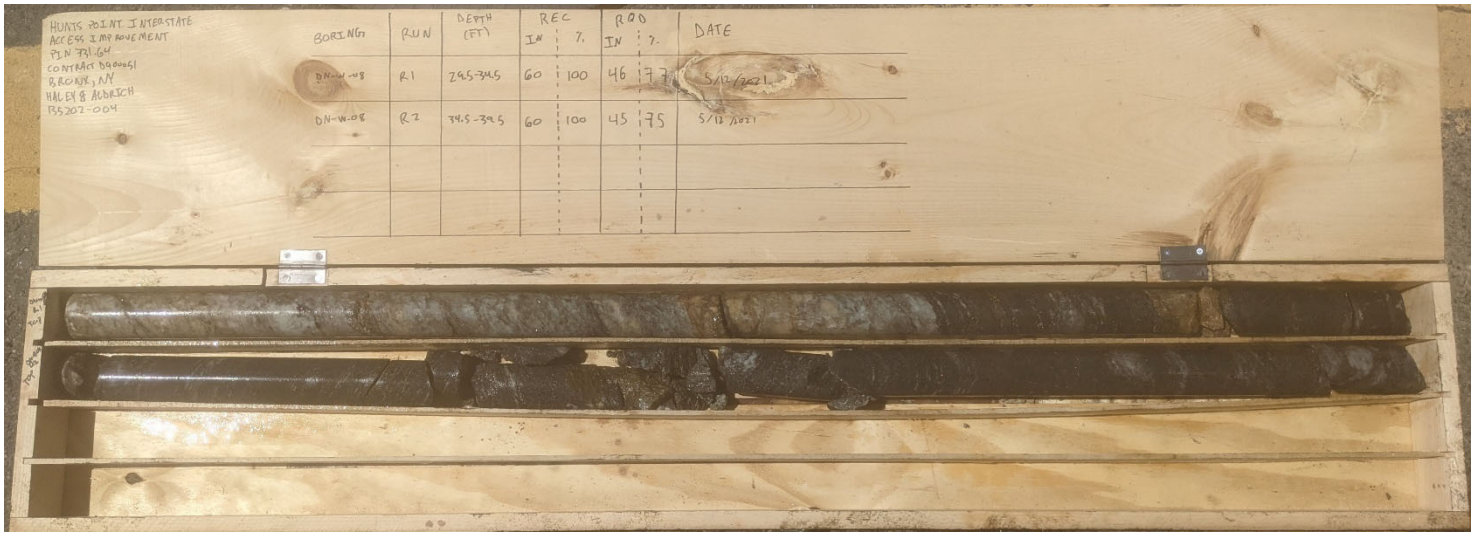
Rock Core Photograph #1: DN-B-154 (R3 and R4) and **DN-W-05 (R1)** from top left to bottom right.

Rock Core Photograph #2: **DN-W-05 (R2)** from top left to bottom right

Rock Core Photograph #3: **DN-W-06 (R1 and R2)** from top left to bottom right.



Rock Core Photograph #4: DN-W-05 (R2) and **DN-W-07 (R1 and R2)** from top left to bottom right.



Rock Core Photograph #5: **DN-W-08 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #6: DN-B-102 (R4) and **DN-W-09 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #7: **DN-B-125 (R1, R2, R3 and R4)** from top left to bottom right.

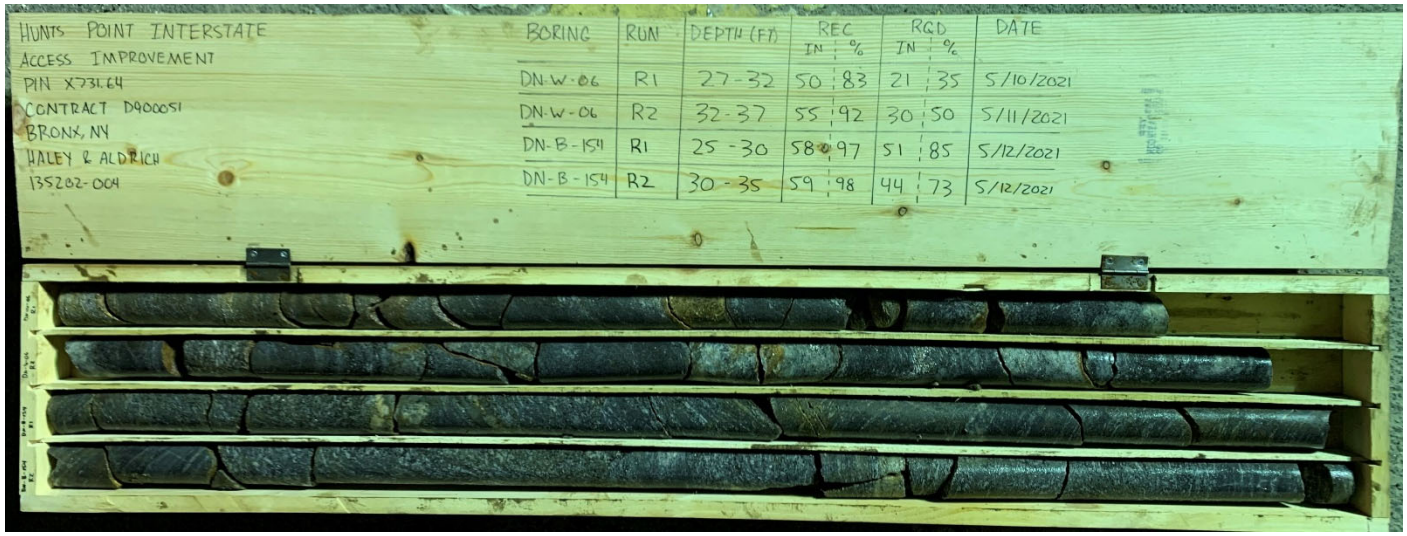
Rock Core Photograph #8: **DN-B-125 (R5)** from top left to bottom right.

Rock Core Photograph #9: **DN-B-126 (R1, R2 and R3)** from top left to bottom right.

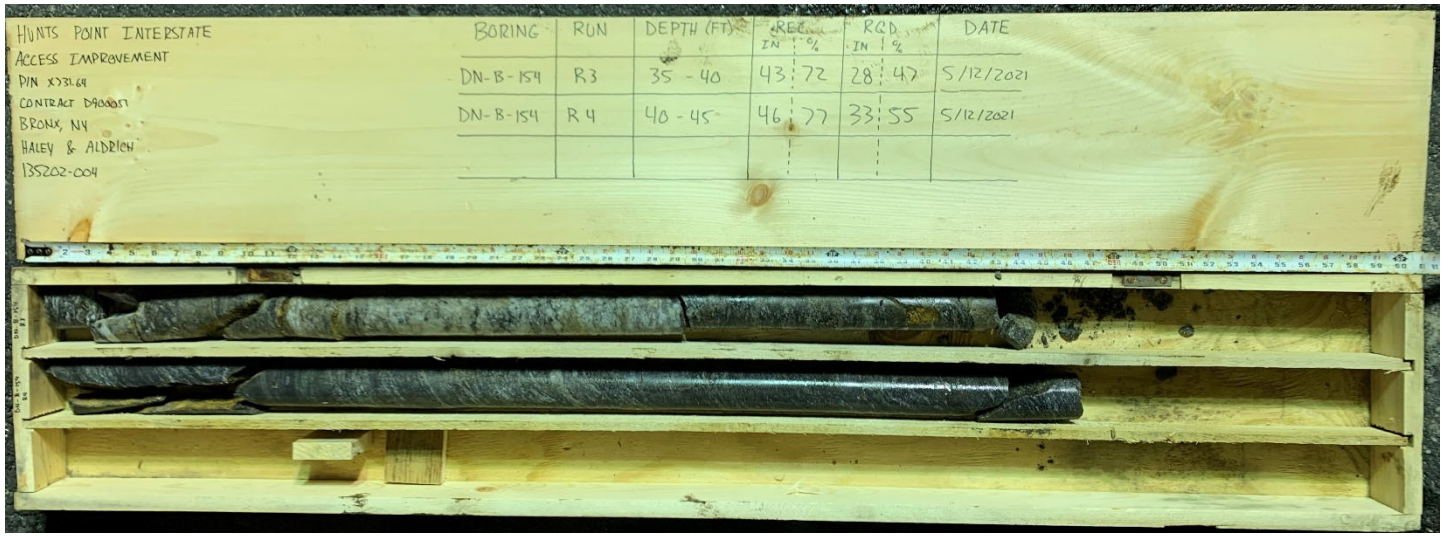
Rock Core Photograph #10: DN-B-125 (R5) and **DN-B-126 (R4)** from top left to bottom right.

Rock Core Photograph #11: DN-B-111 (R5) and **DN-B-155 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #12: **DN-B-155 (R4)** and DN-B-153 (R1, R2 and R3) from top left to bottom right.

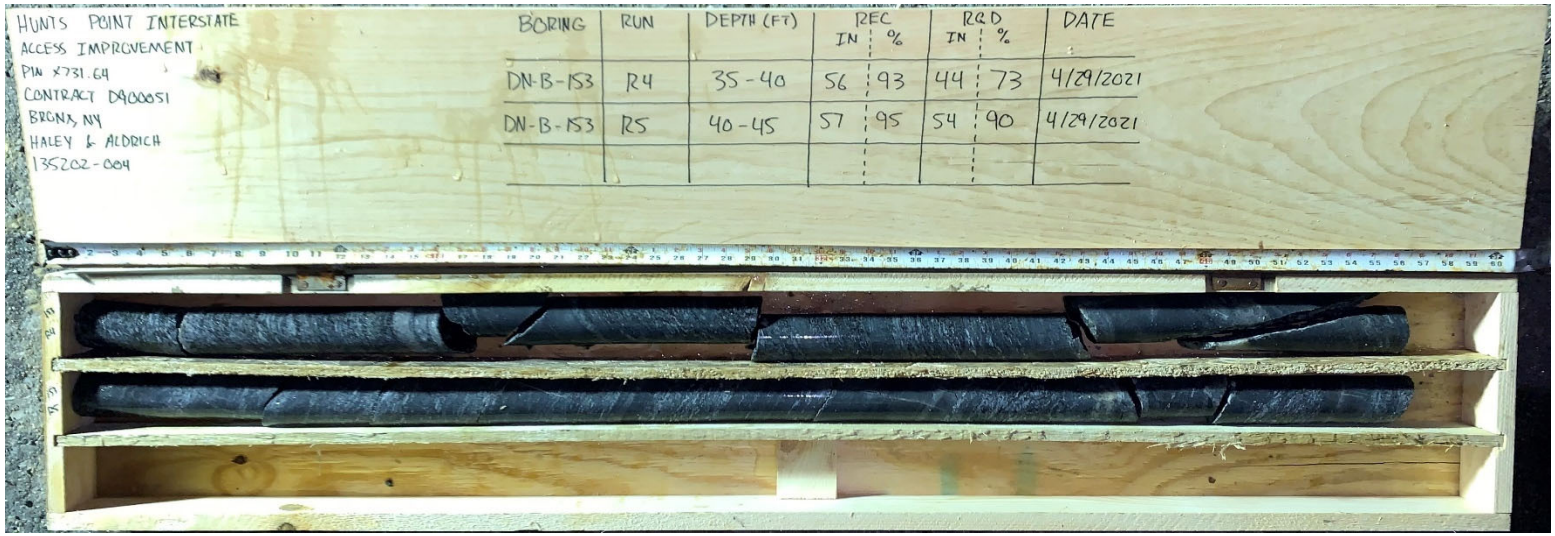


Rock Core Photograph #13: DN-W-06 (R1 and R2) and **DN-B-154 (R1 and R2)** from top left to bottom right.

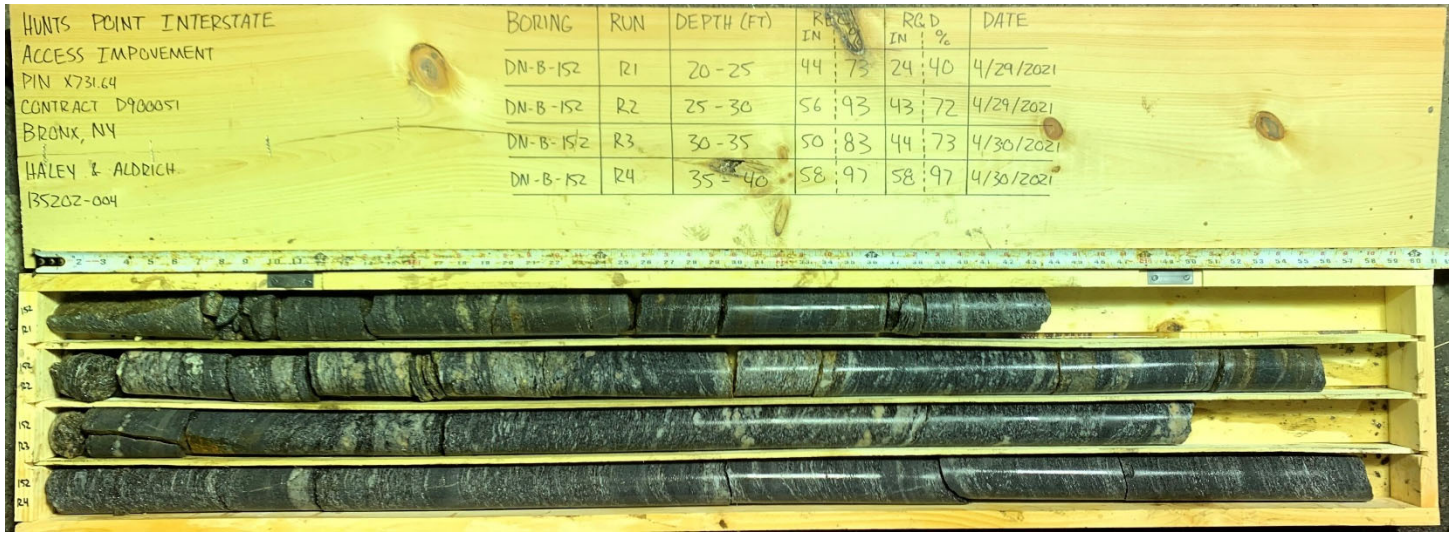


Rock Core Photograph #14: **DN-B-154 (R3 and R4)** from top left to bottom right.

Rock Core Photograph #15: DN-B-155 (R4) and **DN-B-153 (R1, R2 and R3)** from top left to bottom right.

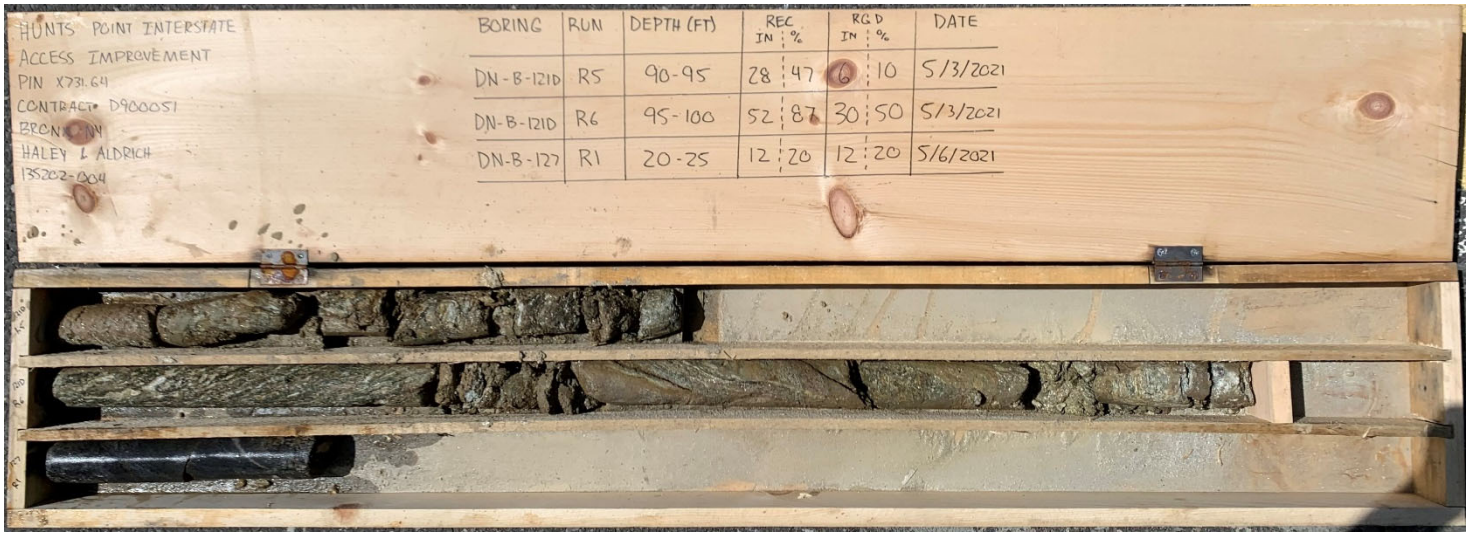


Rock Core Photograph #16: **DN-B-153 (R4 and R5)** from top left to bottom right.



Rock Core Photograph #17: **DN-B-152 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #18: **DN-B-152 (R5)** from top left to bottom right.



Rock Core Photograph #19: DN-B-121D (R5 and R6) and **DN-B-127 (R1)** from top left to bottom right.

Rock Core Photograph #20: **DN-B-127 (R2 and R3)** and **DN-B-128 (R1 and R2)** from top left to bottom right.

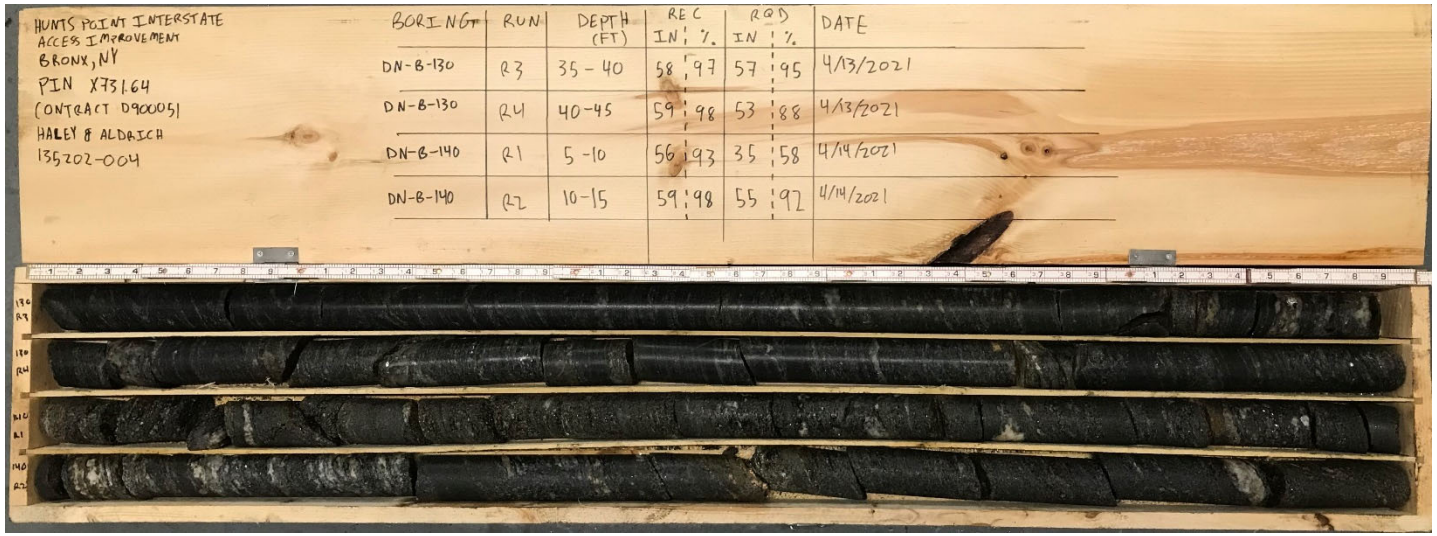
Rock Core Photograph #21: **DN-B-113 (R1)** and **DN-B-156 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #22: **DN-B-156 (R4)** from top left to bottom right.

Rock Core Photograph #23: **DN-B-127 (R2 and R3)** and **DN-B-128 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #24: DN-B-136 (R6 and R7) and **DN-B-129 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #25: **DN-B-129 (R3 and R4)** and **DN-B-130 (R1 and R2)** from top left to bottom right.



Rock Core Photograph #26: **DN-B-130 (R3 and R4)** and DN-B-140 (R1 and R2) from top left to bottom right.

Rock Core Photograph #27: DN-B-132 (R5) and **DN-B-131 (R1, R2 and R3)** from top left to bottom right.

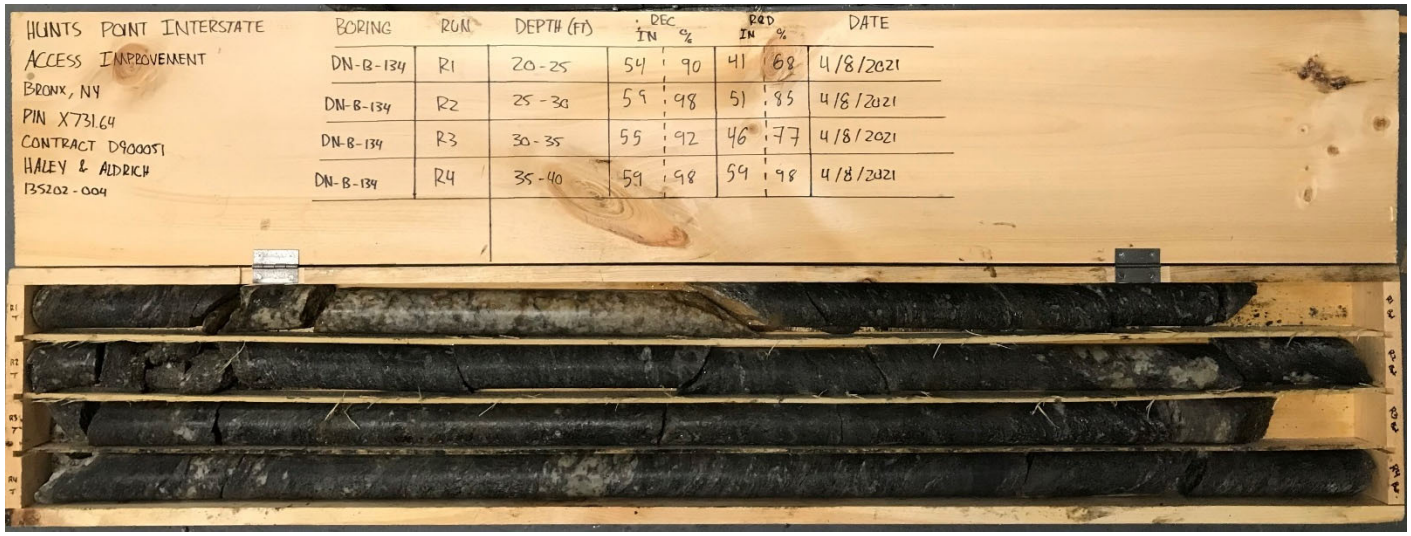
Rock Core Photograph #28: **DN-B-131 (R4 and R5)** and DN-B-115 (R1 and R2) from top left to bottom right.

Rock Core Photograph #29: **DN-B-132 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #30: **DN-B-132 (R5)** and DN-B-131 (R1, R2 and R3) from top left to bottom right.

Rock Core Photograph #31: **DN-B-133 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #32: **DN-B-133 (R5 and R6)** from top left to bottom right.



Rock Core Photograph #33: **DN-B-134 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #34: DN-B-136 (R5) and **DN-B-134 (R5 and R6)** and DN-B-146 (R5) from top left to bottom right.

Rock Core Photograph #35: **DN-B-135 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #36: **DN-B-135 (R5, R6 and R7)** from top left to bottom right.

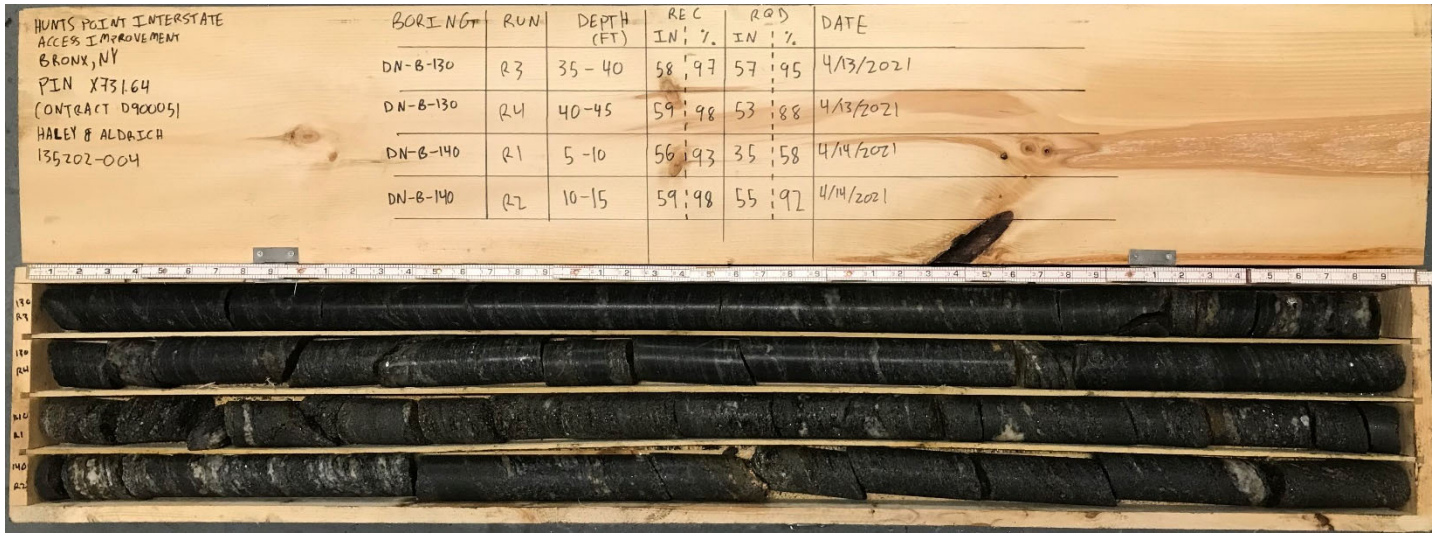
Rock Core Photograph #37: **DN-B-136 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #38: **DN-B-136 (R5)** and DN-B-134 (R5 and R6) and DN-B-146 (R5) from top left to bottom right.

Rock Core Photograph #39: **DN-B-136 (R6 and R7)** and DN-B-129 (R1 and R2) from top left to bottom right.

Rock Core Photograph #40: **DN-B-137 (R1 and R2)** and **DN-B-138 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #41: DN-B-142 (R1 and R2) and **DN-B-139 (R1 and R2)** from top left to bottom right.



Rock Core Photograph #42: DN-B-130 (R3 and R4) and **DN-B-140 (R1 and R2)** from top left to bottom right.

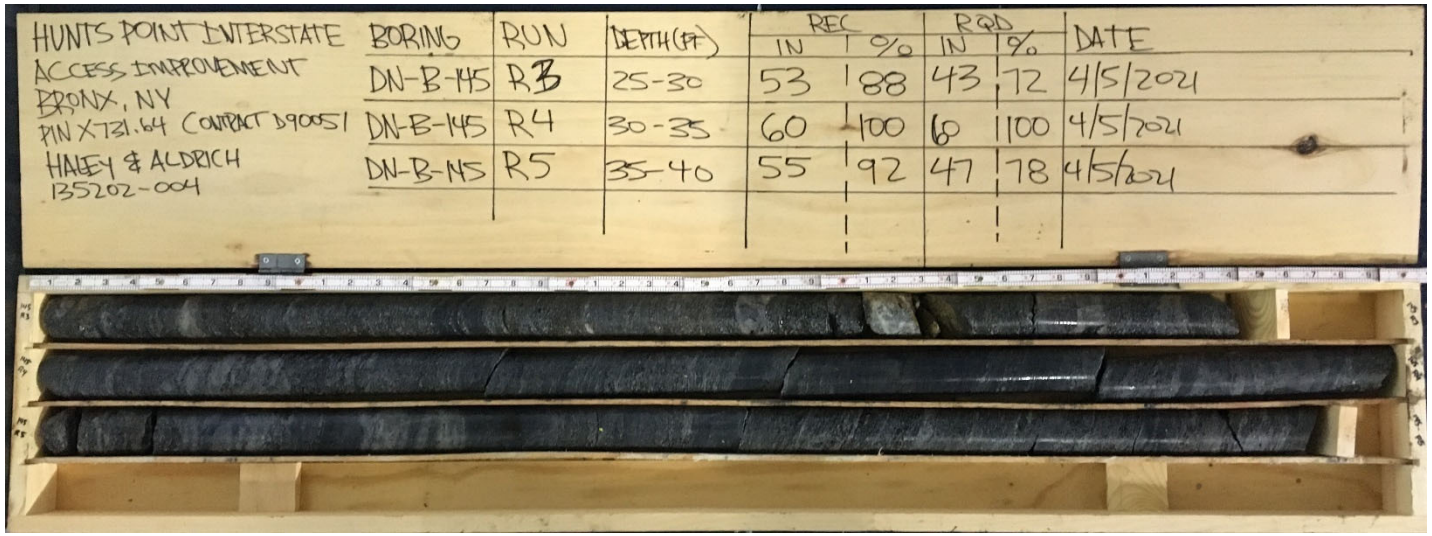
Rock Core Photograph #43: **DN-B-140 (R3)** and **DN-B-141 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #44: **DN-B-142 (R1 and R2)** and DN-B-139 (R1 and R2) from top left to bottom right.

Rock Core Photograph #45: **DN-B-143 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #46: **DN-B-144 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #47: DN-B-147 (R1 and R2) and **DN-B-145 (R1 and R2)** from top left to bottom right.

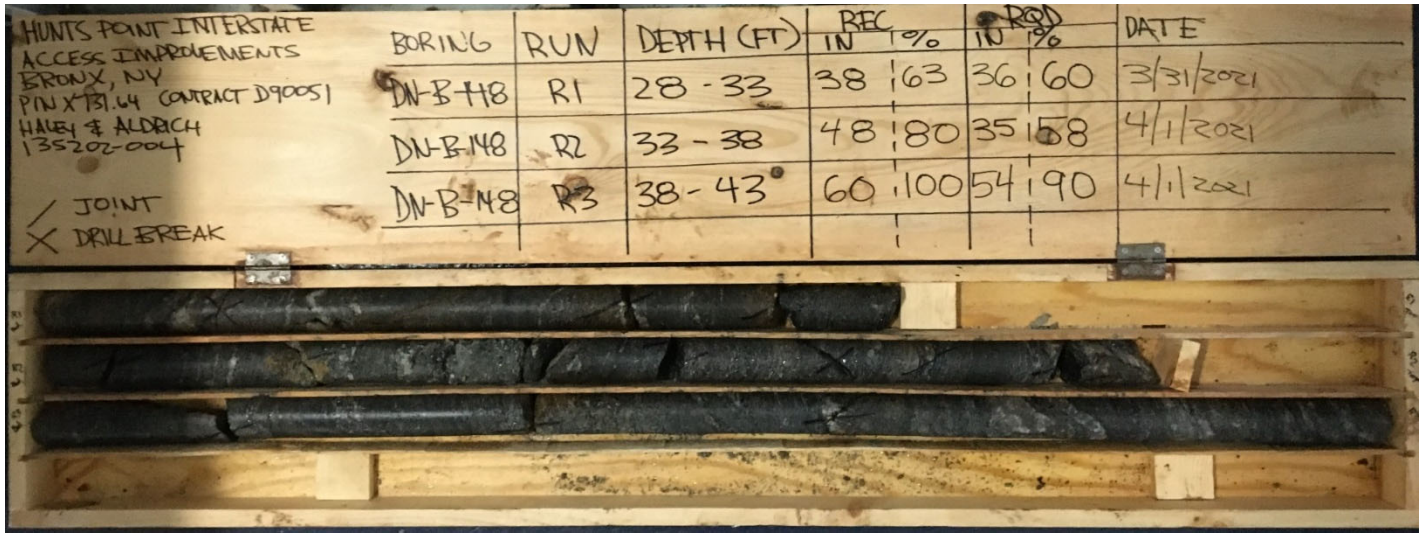


Rock Core Photograph #48: **DN-B-145 (R3, R4 and R5)** from top left to bottom right.

Rock Core Photograph #49: **DN-B-146 (R1, R2, R3 and R4)** from top left to bottom right.

Rock Core Photograph #50: DN-B-136 (R5) and DN-B-134 (R5 and R6) and **DN-B-146 (R5)** from top left to bottom right.

Rock Core Photograph #51: **DN-B-147 (R1 and R2)** and DN-B-145 (R1 and R2) from top left to bottom right.



Rock Core Photograph #52: **DN-B-148 (R1, R2 and R3)** from top left to bottom right.

Rock Core Photograph #53: **DN-B-149 (R1 and R2)** from top left to bottom right.

Rock Core Photograph #54: **DN-B-151 (R1 and R2)** and **DN-B-150 (R1 and R2)** from top left to bottom right.

APPENDIX C

Geotechnical Laboratory Data

Haley & Aldrich #135202-004
Hunts Point Interstate Improvement Project Contract 2
LABORATORY SOIL TESTING DATA SUMMARY

BORING NO.	PIER/ ABUTMENT	SAMPLE NO.	DEPTH (ft)	IDENTIFICATION TESTS						REMARKS
				WATER CONTENT (%)	LIQUID LIMIT (-)	PLASTIC LIMIT (-)	PLAS. INDEX (-)	USCS SYMB. (1)	ORGANIC CONTENT (burnoff) (%)	
DN-B-107	LB Pier-80	J4 to J7	6-17							See Corrosion Summary
DN-B-120	LB Pier-88	J4 to J7	6-17							See Corrosion Summary
DN-B-124	LB-Abutment	J4 to J7	6-17							See Corrosion Summary
DN-B-124	LB-Abutment	J13	32-34	101.4	139	78	61	OH	23.0	
DN-B-129	BL-14	J4 to J7	6-17							See Corrosion Summary
DN-B-148	BL-Pier-128	J2 to J5	6-17							See Corrosion Summary
DN-B-154	BL-Abutment	J4 to J7	6-17							See Corrosion Summary

Note: (1) USCS symbol based on visual observation and Atterberg limits reported.

Haley & Aldrich #135202-004
Hunts Point Interstate Improvement Project Contract 2
Summary of Corrosion Testing

SAMPLE ID				RESISTIVITY TESTS					CHEMICAL TESTS							REMARKS
Boring No.	Pier/Abutment	Sample No. *	Depth (ft)	Test Method (2)	As-Received Water Content (%)	As-Received Resistivity (kΩ - cm)	@ Minimum Resistivity Water Content (%)	@ Minimum Resistivity Resistivity (kΩ - cm)	pH ASTM G51 pH (pH units)	pH ASTM G51 Temperature (°C)	Awwa Appendix A Redox Potential R1 (mV)	Awwa Appendix A Redox Potential R2 (mV)	Awwa Appendix A Redox Potential R3 (mV)	Awwa Appendix A Redox Potential Average (mV)	Awwa Appendix A Sulfide Response (visual)	
DN-B-107	LB Pier-80	J4 to J7	6-17	ASTM G57	14.2	3.1	36.6	1.5	7.1	21.7	206	201	198	202	trace	
DN-B-120	LB Pier-88	J4 to J7	6-17	ASTM G57	17.0	1.2	31.4	1.1	7.5	22.8	202	214	209	208	trace to positive	
DN-B-124	LB-Abutment	J4 to J7	6-17	ASTM G57*	14.3	0.5	31.5	0.3	6.9	21.4	197	209	182	196	trace	
DN-B-129	BL-14	J4 to J7	6-17	ASTM G57	19.6	1.2	31.0	0.1	7.3	22.8	202	196	193	197	trace to positive	
DN-B-148	BL-Pier-128	J2 to J5	6-17	ASTM G57	19.8	0.5	19.8	0.5	7.4	23.3	193	204	197	198	positive	
DN-B-154	BL-Abutment	J4 to J7	6-17	ASTM G57	19.9	0.8	30.9	0.7	7.1	24.2	208	214	222	215	positive	

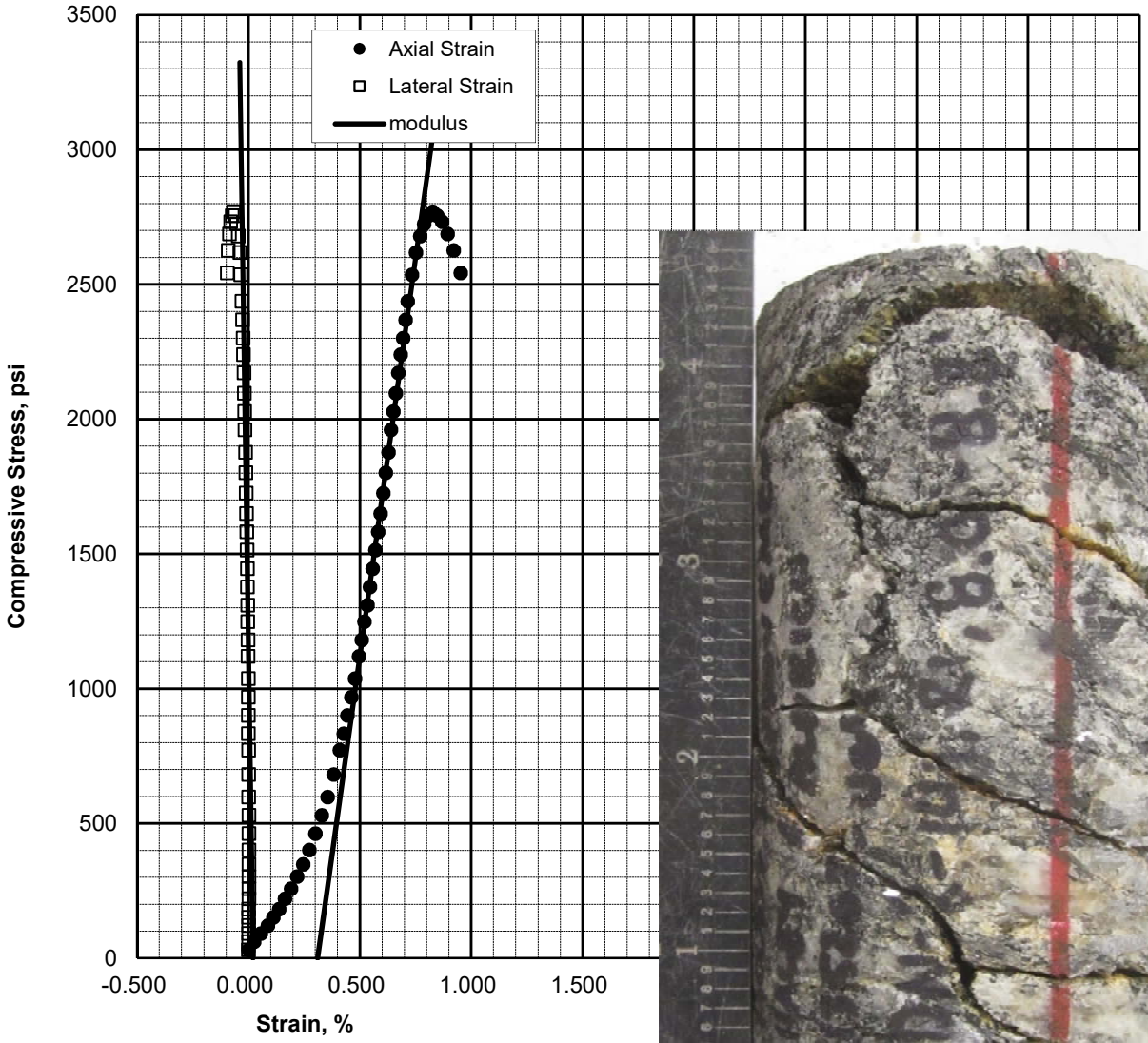
* Tests performed on sample fraction finer than #8 sieve

KEY: (2) ASTM G57*: Multi point test using G187 equipment to identify minimum resistivity

Haley & Aldrich
Hunts Point Interstate Improvement Project Contract 2
SUMMARY OF ROCK TESTING

SAMPLE IDENTIFICATION			STATE PROPERTIES			ENGINEERING PROPERTY TESTS						REMARKS
Boring	Run	Depth	WATER CONTENT (1) (%)	TOTAL UNIT WGT. (pcf)	DRY UNIT WGT. (pcf)	TEST TYPE (2)	UNCONFINED COMPRESSION TESTS (ASTM D7012)					
							COMPRESSIVE STRENGTH (psi)	AXIAL STRAIN @ FAILURE (%)	ESTIMATED (5) ELASTIC MODULUS (psi)	ELASTIC MODULUS (psi)	POISSON'S RATIO (-)	
DN-B-104	78	90.3-90.7	0.0	178	178	UC	16250	0.19	9E+06			
DN-B-112	83	109.75-110.15	0.2	177	177	UC	10640	0.20	6E+06			
DN-B-129	114	27.1-27.5	0.2	169	169	UC	7830	0.19	4E+06			
DN-B-130	BL-4	35.1-35.5	0.1	173	173	UC	6650	0.15	5E+06			
DN-B-131	115A	16.4-16.8	0.3	170	169	UC	3870	0.18	2E+06			
DN-B-141	122	8.2-8.6	0.6	168	167	UCmod	2770	0.83		5.9E+05	0.11	
DN-B-142	123	11.2-11.6	0.1	172	172	UCmod	3860	0.24		2.4E+06	0.08	
DN-B-148	128	28.05-28.45	0.1	78	78	UC	7250	0.29	3E+06			
DN-B-150	132	21.3-21.7	0.4	170	170	UC	2620	0.44	6E+05			
DN-B-151	133	22.8-23.2	0.1	169	169	UC	11690	0.25	6E+06			

Notes: (1) Water contents determined after trimming and shearing.
(2) Test Type Abbreviations: UC: UC Compression test with estimated elastic moduli, UCMod: UC Compression test with elastic moduli determination
(5) Modulus estimated based on corrected gross deformations.



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.63	168	167	4.245	2.051

Specimen meets ASTM D4543 shape tolerances

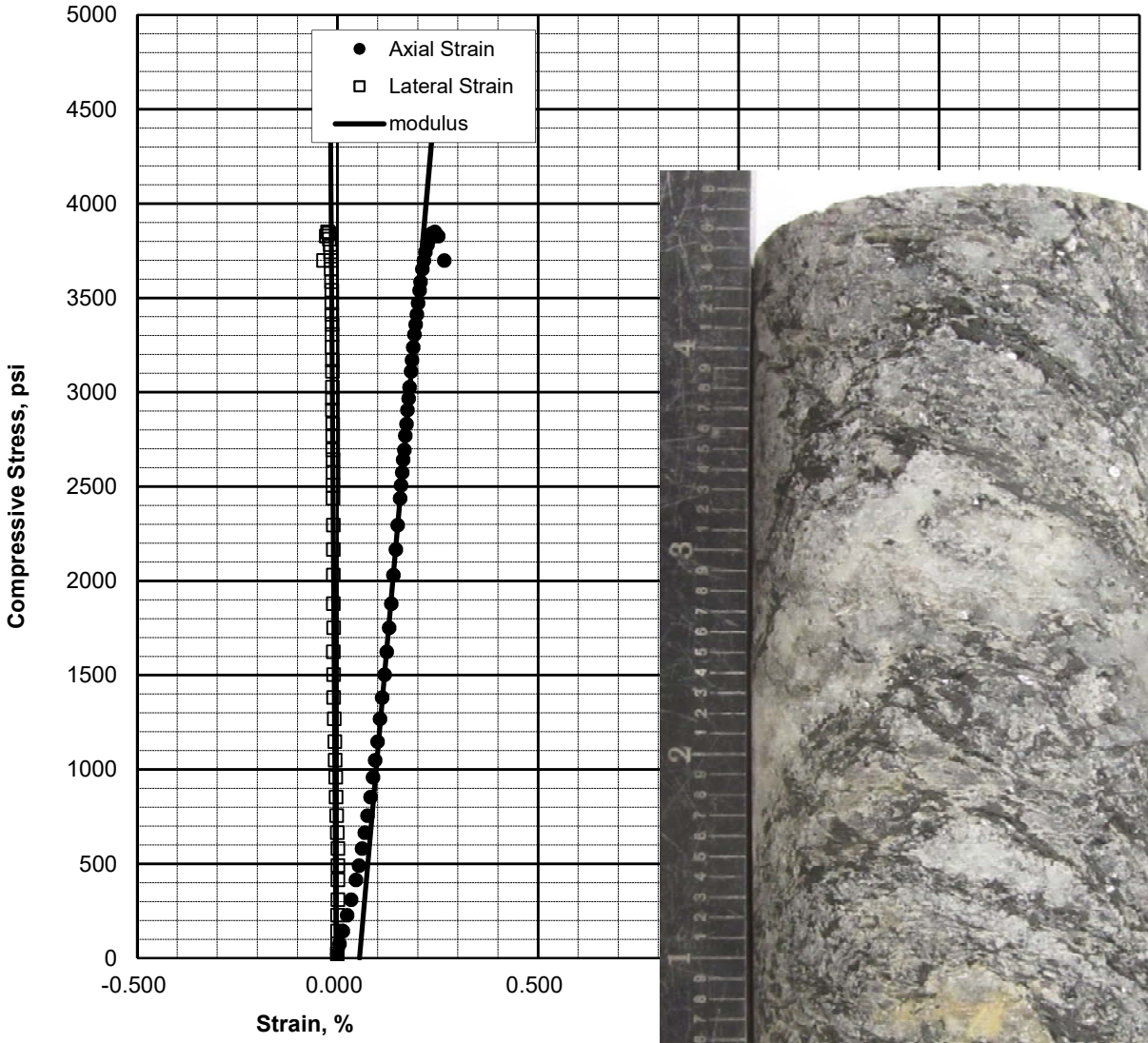
Test Summary

Strain Rate (%/min)	Strain to Peak (%)	q_u (psi)	Elastic Modulus (psi)	Poisson's Ratio
0.12	0.83	2770	5.9E+05	0.11

Tested by: DM Test Date: May-24-21

FAILURE PHOTO

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH AND AND ELASTIC MODULUS TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-141 Pier: 122 Depth 8.2-8.6 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.13	172	172	4.456	2.054

Specimen meets ASTM D4543 shape tolerances

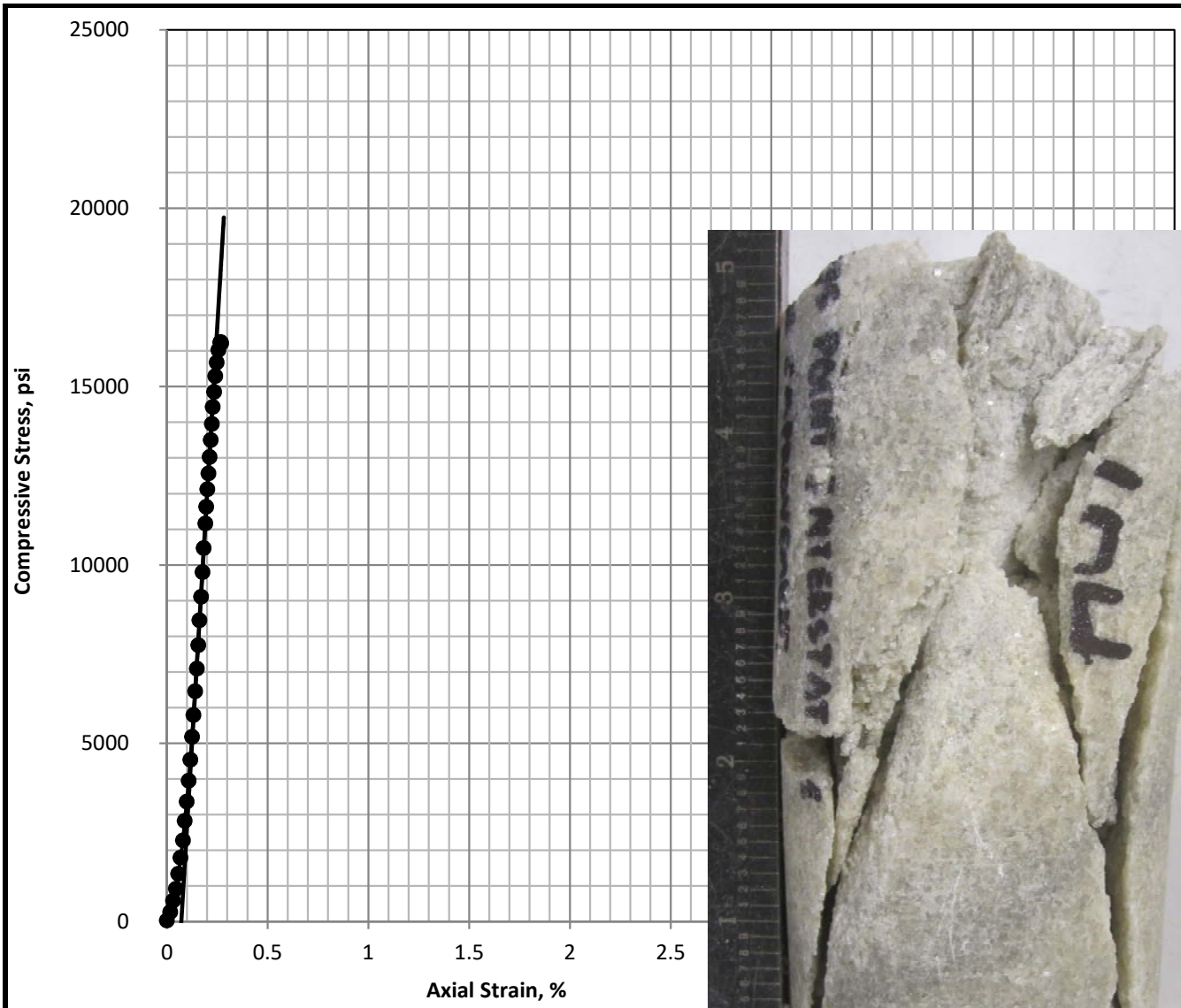
Test Summary

Strain Rate (%/min)	Strain to Peak (%)	q_u (psi)	Elastic Modulus (psi)	Poisson's Ratio
0.08	0.24	3860	2.4E+06	0.08

Tested by: DM Test Date: May-24-21

FAILURE PHOTO

Haley & Aldrich **Project # 135202-004**	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH AND AND ELASTIC MODULUS TEST** **Boring: DN-B-142 Pier: 123** **Depth 11.2-11.6 ft.**
TerraSense, LLC **Project # 7788-21008**		



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.04	178	178	4.530	2.049

Specimen meets ASTM D4543 shape tolerances

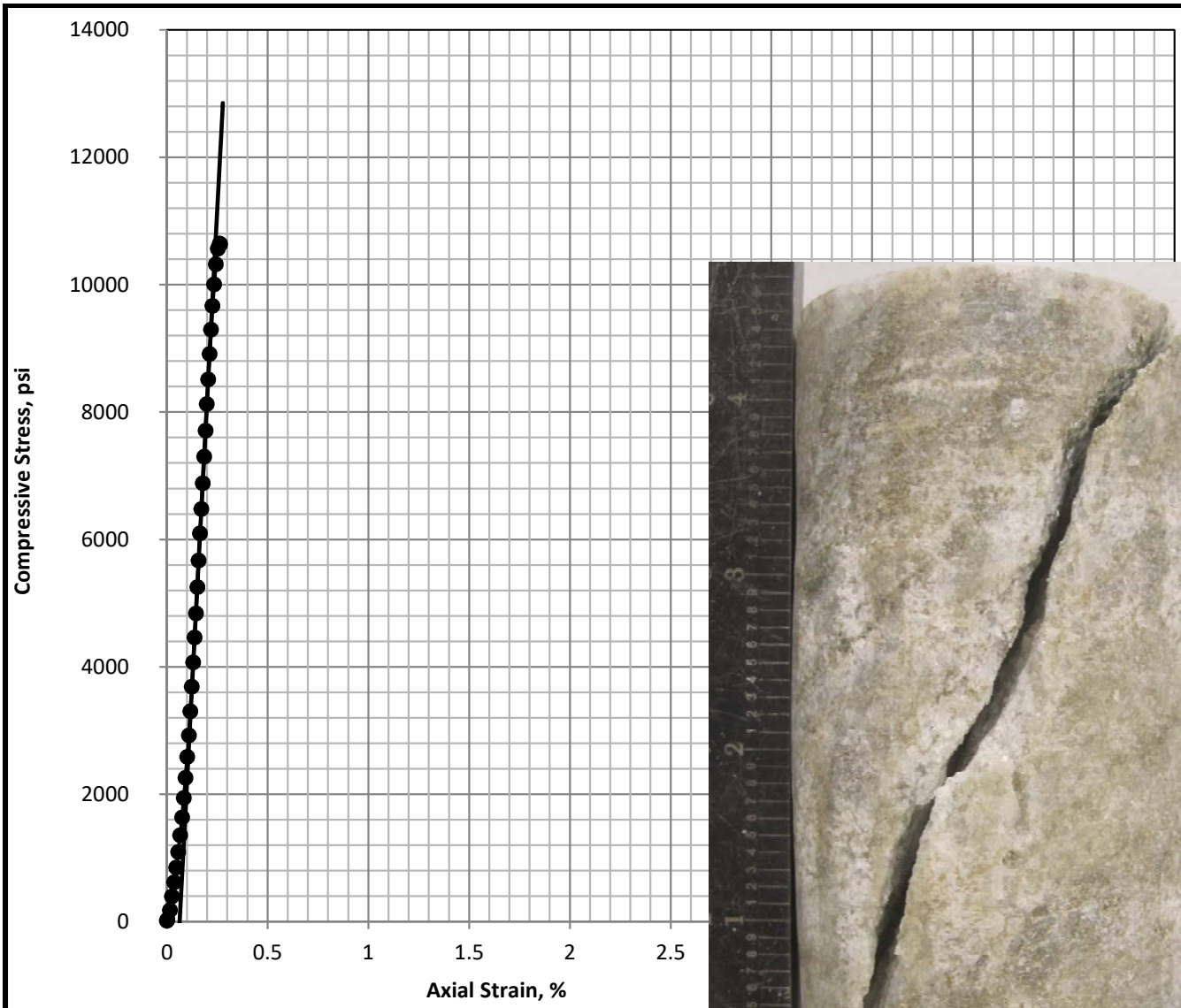
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.06	0.19	16250	9E+06

Test by: DM
Test Date: May-26-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-104 Pier: 78 Depth 90.3-90.7 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.19	177	177	4.457	2.046

Specimen does not meet ASTM D4543 shape tolerances for side straightness

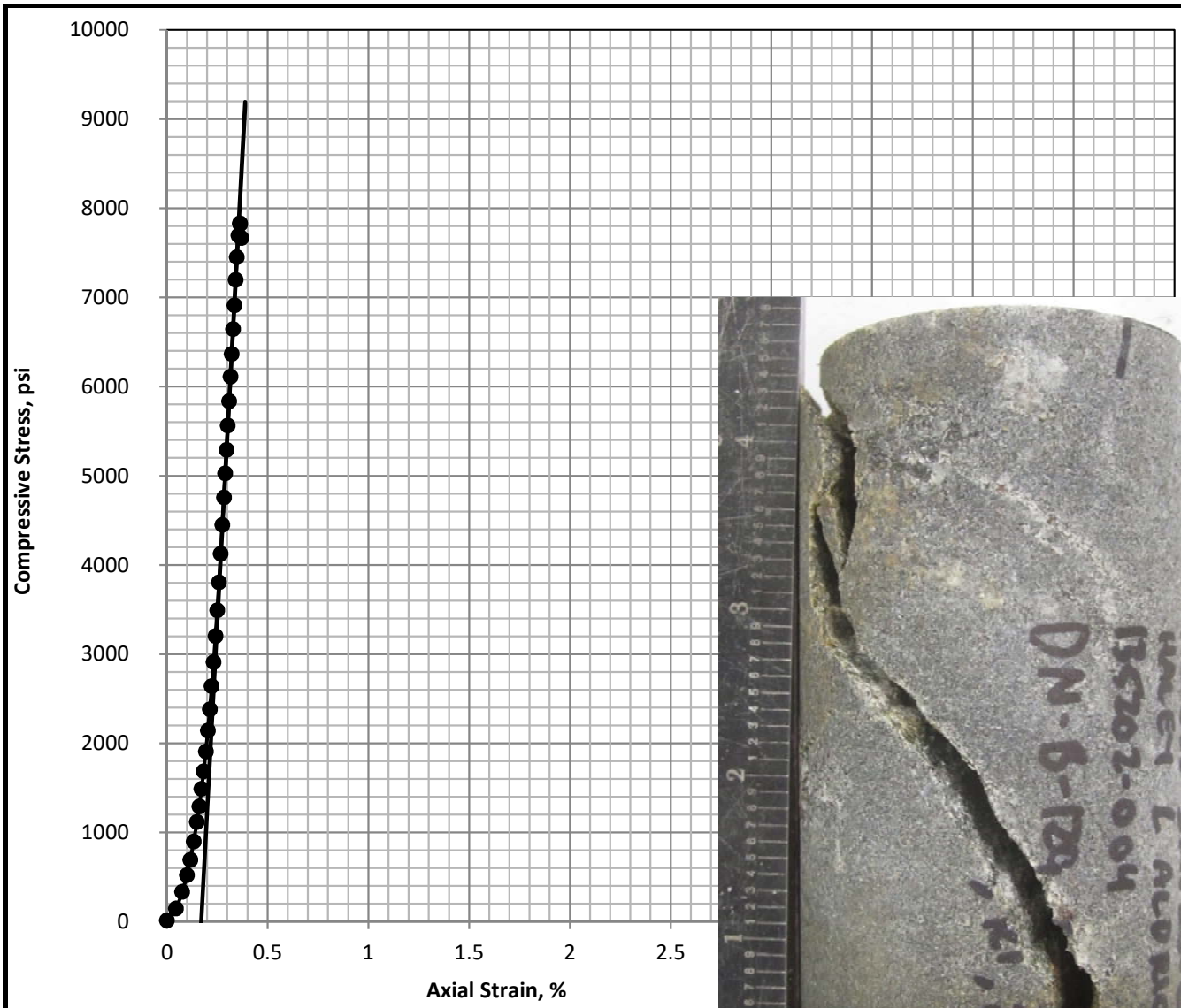
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.08	0.20	10640	6E+06

Test by: DM
Test Date: May-26-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-112 Pier: 83 Depth 109.75-110.15 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.20	169	169	4.500	2.052

Specimen meets ASTM D4543 shape tolerances

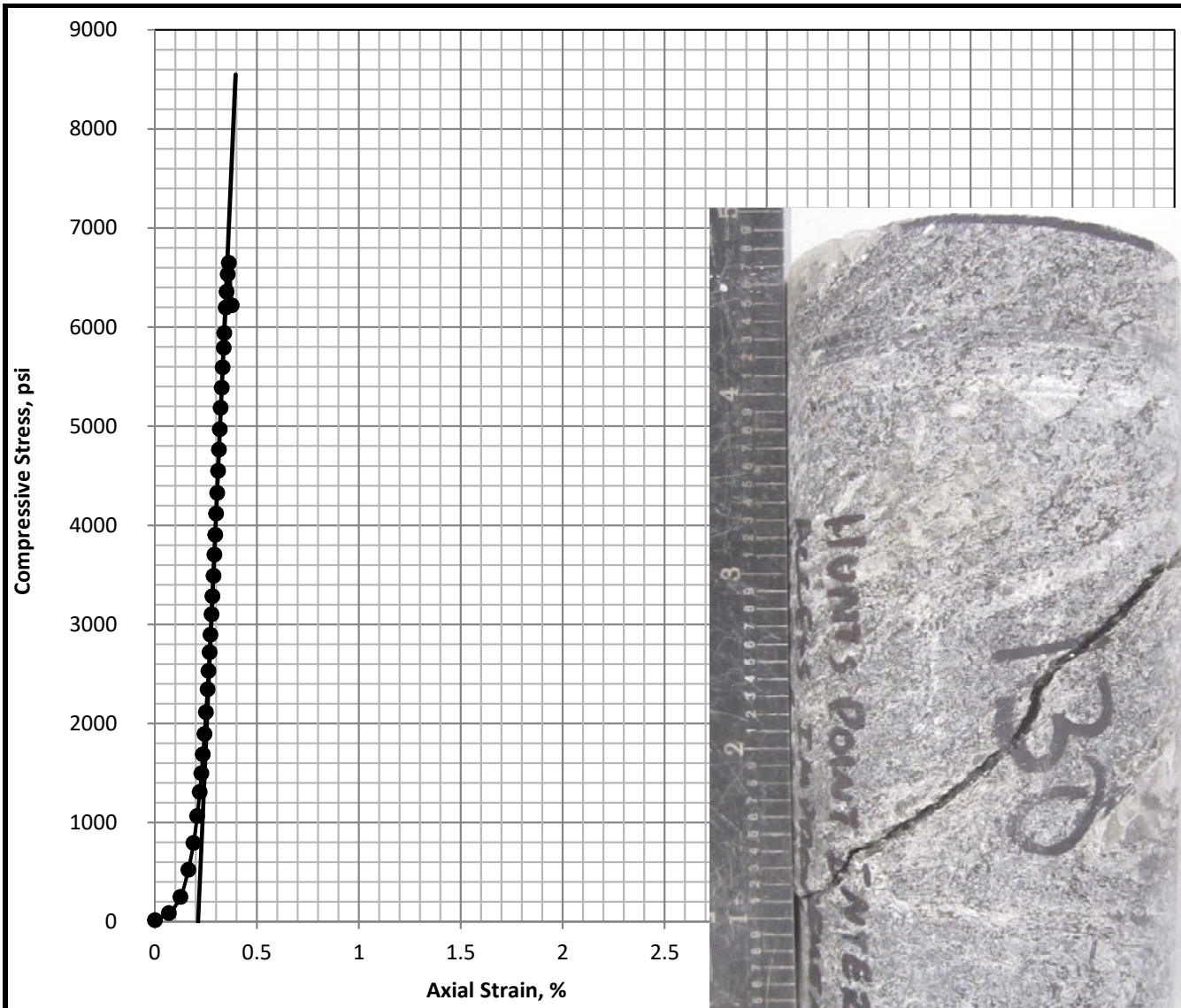
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.10	0.19	7830	4E+06

Test by: DM
Test Date: May-25-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-129 Pier: 114 Depth 27.1-27.5 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.08	173	173	4.619	2.051

Specimen meets ASTM D4543 shape tolerances

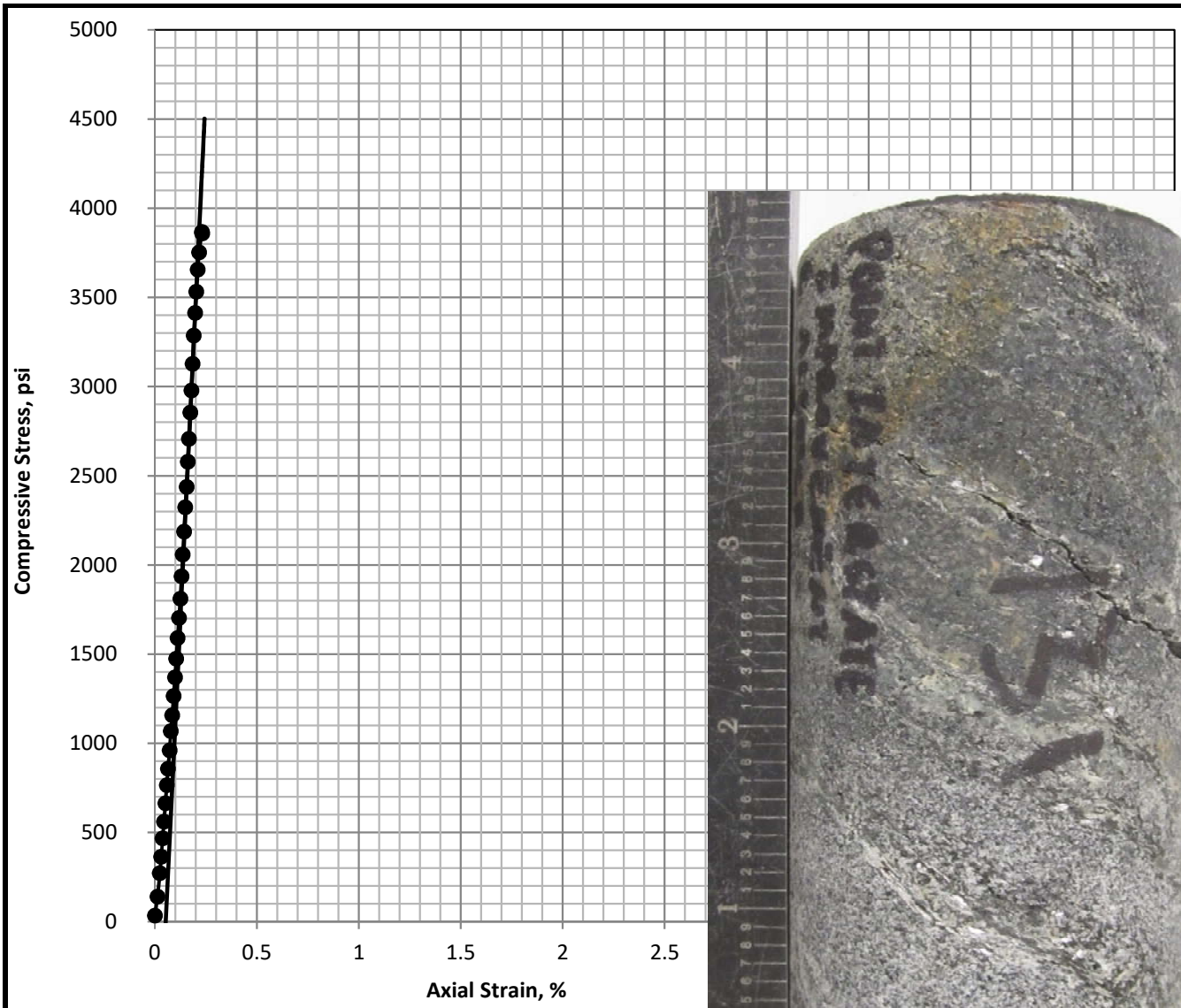
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.09	0.15	6650	5E+06

Test by: DM
Test Date: May-25-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-130 Pier: BL-4 Depth 35.1-35.5 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.29	170	169	4.602	2.050

Specimen meets ASTM D4543 shape tolerances

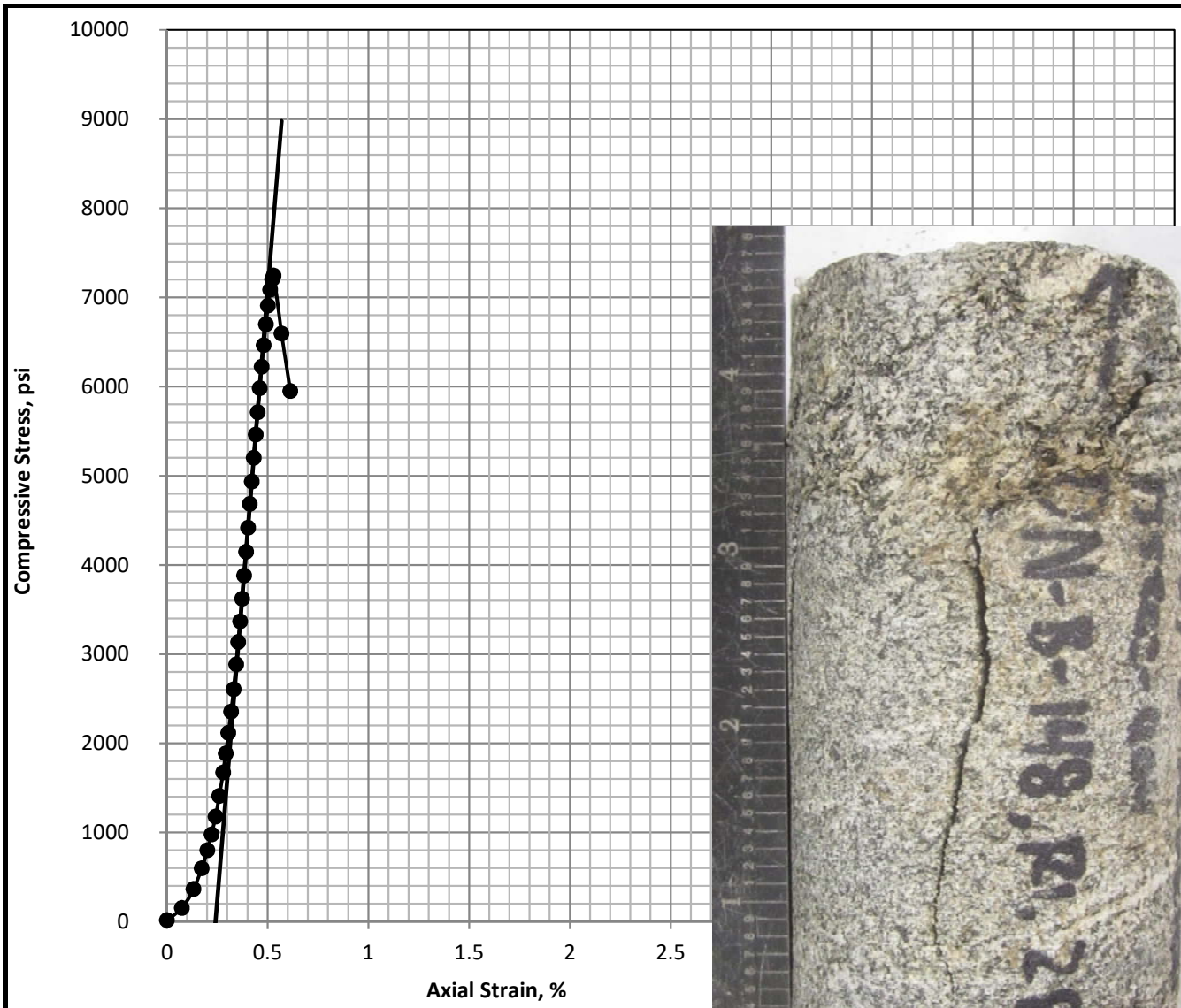
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.12	0.18	3870	2E+06

Test by: DM
Test Date: May-26-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-131 Pier: 115A Depth 16.4-16.8 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.13	78	78	4.491	2.038

Specimen meets ASTM D4543 shape tolerances

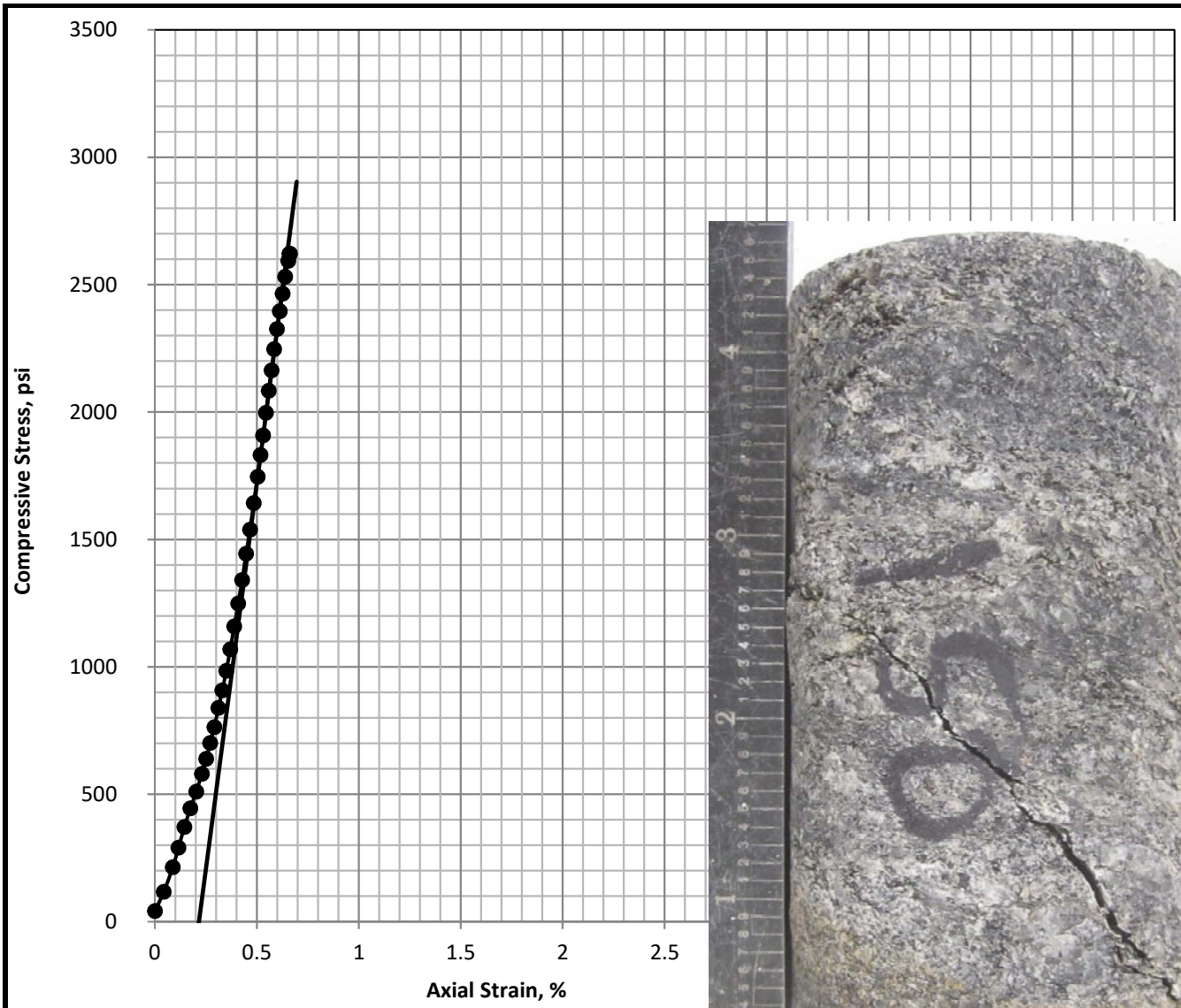
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.12	0.29	7250	3E+06

Test by: DM
Test Date: May-25-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-148 Pier: 128 Depth 28.05-28.45 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.41	170	170	4.407	2.032

Specimen does not meet ASTM D4543 shape tolerances for side straightness

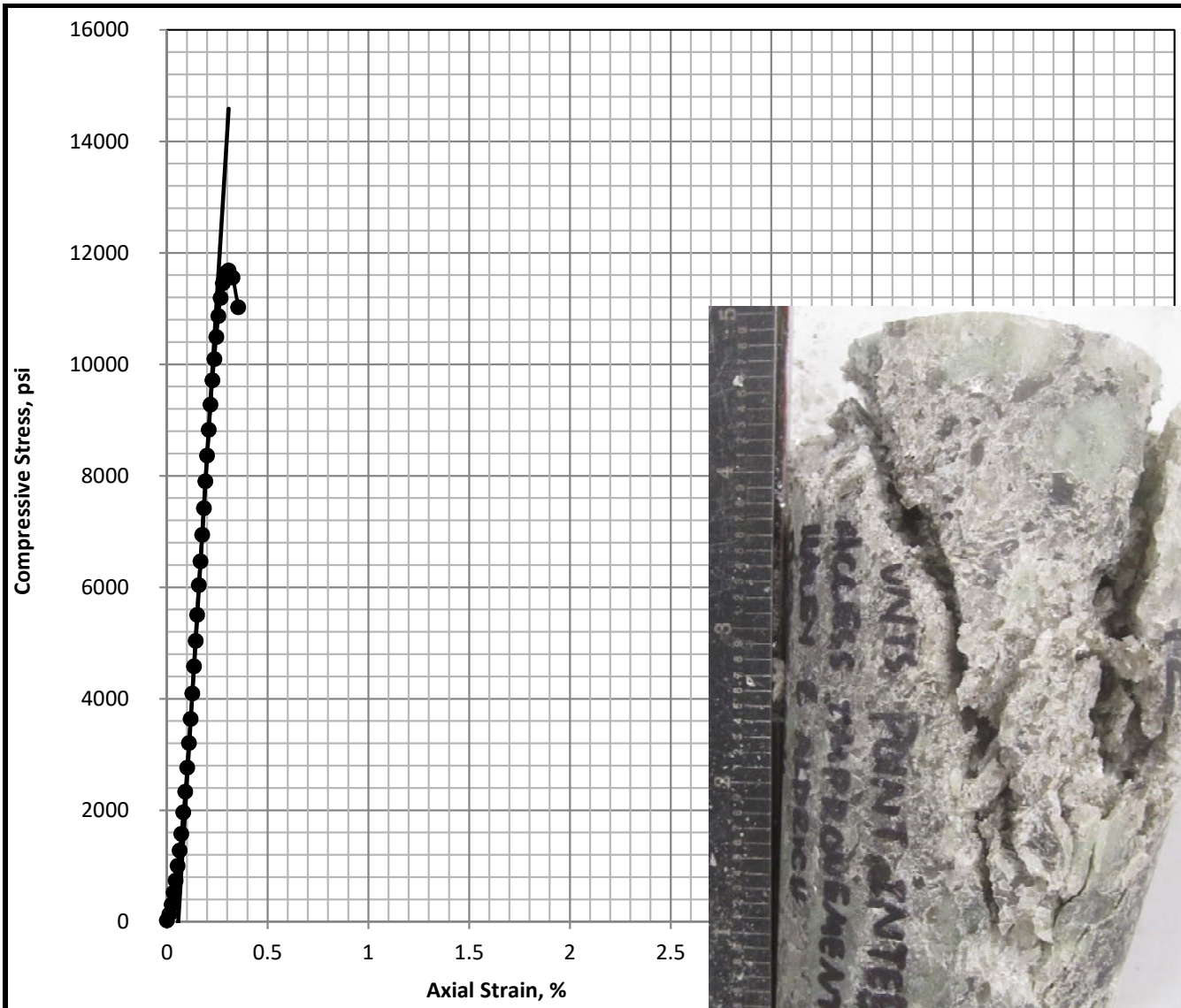
FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.16	0.44	2620	6E+05

Test by: DM
Test Date: May-26-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-150 Pier: 132 Depth 21.3-21.7 ft.**



Specimen Information

Water Content (%)	Wet Unit Weight (pcf)	Dry Unit Weight (pcf)	Length (inch)	Diameter (inch)
0.09	169	169	4.556	2.051

Specimen meets ASTM D4543 shape tolerances

FAILURE PHOTO

Test Summary

Strain Rate (%/min)	Corrected Strain Strain to Peak (%)	q_u (psi)	Estimated (shown) Elastic Modulus (psi)
0.08	0.25	11690	6E+06

Test by: DM
Test Date: May-26-21
Reviewed by: GET

Haley & Aldrich Project # 135202-004	**Hunts Point Interstate Improvement Project Contract 2**	**COMPRESSIVE STRESS VS STRAIN UNCONFINED COMPRESSIVE STRENGTH TEST**
TerraSense, LLC Project # 7788-21008		**Boring: DN-B-151 Pier: 133 Depth 22.8-23.2 ft.**

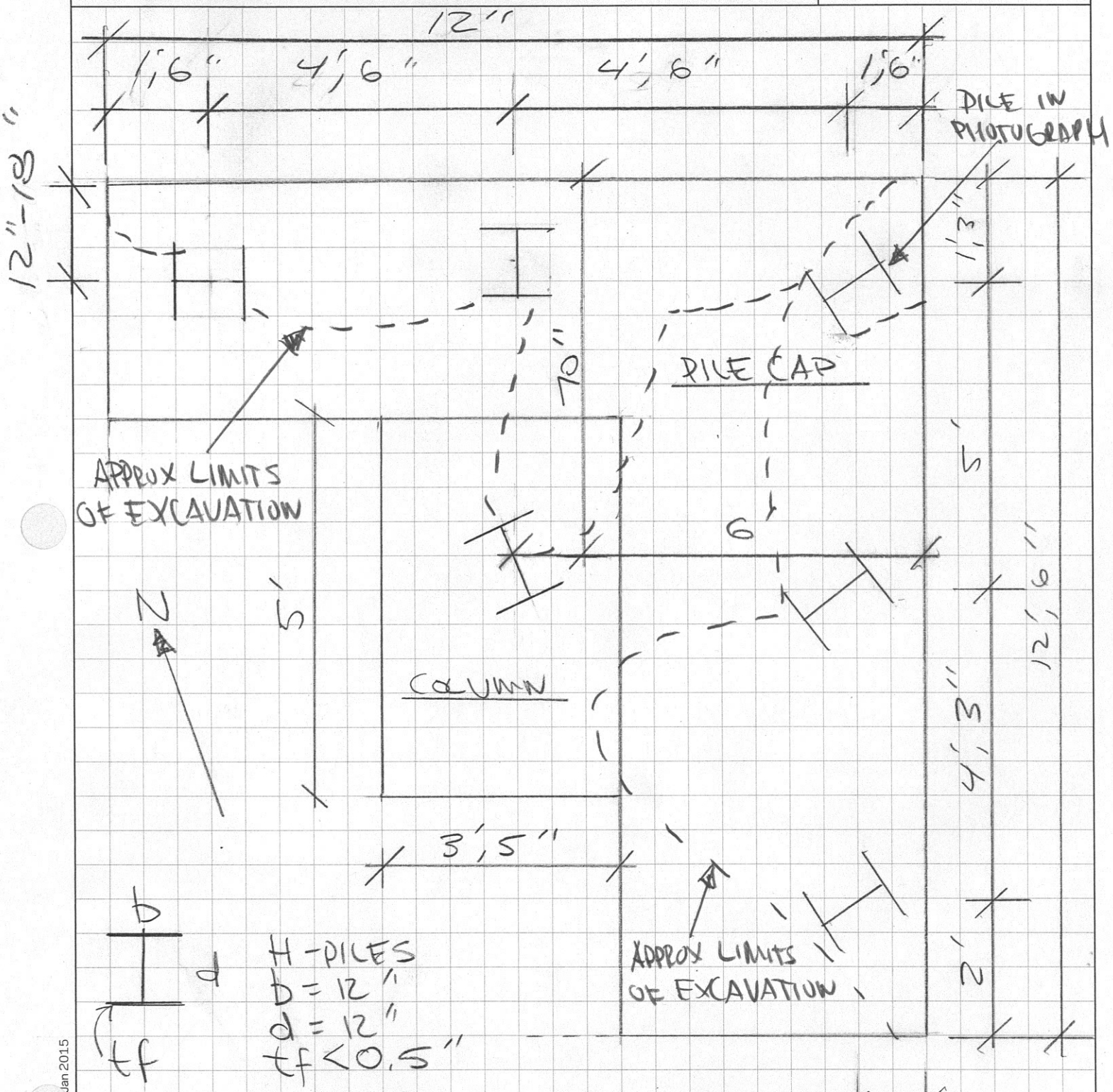
APPENDIX D

Pier 130 Test Pit Sketch and Photo Log

HALEY ALDRICH

CALCULATIONS

Client	EL SOL / DEFOE J.V.
Project	HUNTS POINT INTERSTATE
Subject	BL PIER 130 TEST PITS SOUTH / EAST
File No.	135202-004
Sheet	1 of 1
Date	4/27/2021
Computed By	S+BR
Checked By	PBP



H-PILES
b = 12"
d = 12"
tf < 0.5"

SOUTH PILES ROTATED
APPROX. 30°-40°
CENTER PILE APROX 10°-15°

15"-17"

100% Post-consumer waste

TEST PIT PIER 130 PHOTOGRAPH

APPENDIX E

Existing Subsurface Exploration Logs and Rock Core Evaluation Logs

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 32
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-32
LINE
STA
OFFSET ft
SURF. ELEV. 32.2
ACTUAL COORDINATES (N) 235,781.150 (E) 1,012,685.880 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 17-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0	J1						(0.00) NO RECOVERY
		J2						
	5.0	J3						
		J4	1	2	1	1	15%	(6.00) Light Gray Gravelly SAND, Silty With Red Brick And Concrete (Possible Fill) (M-NPL)
	10.0	J5	2	2	2	5	13%	(8.00) Brown Sandy GRAVEL, Silty With Red Brick And Concrete (Possible Fill) (M-NPL)
	15.0	J6	2	3	4	5	12%	
	20.0	J7	50					(15.00) NO RECOVERY
	25.0	J8	5	6	6	12	18%	(20.00) Brown Clayey SILT, With Gravel Pieces, Mica And Glass (Possible Fill) (M-LPL)

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR R. Malyukov/N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 32
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-32
LINE
STA
OFFSET ft
SURF. ELEV. 32.2

ACTUAL COORDINATES (N) 235,781.150 (E) 1,012,685.880 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	14	18	5	5	27%	(25.00) Gray Organic Silty CLAY, With Root Fibers And Mica	(M-PL)
	30.0	J10	5	5	10	10	18%	(30.00) Brown Silty SAND, With Pockets Of Gray Clay	(M-PL)
	35.0	J11	17	27	48	90	11%	(35.00) Brown Sandy SILT, With Pockets Of Clayey SILT And Mica	(M-NPL)
	40.0	J12	100				14%	(40.00) Dark Gray Sandy SILT, With Decomposed Rock	(M-NPL)
	45.0	J13	100				13%	(45.00) Dark Gray Sandy SILT, With Decomposed Rock	(M-NPL)
	50.0	R1						(47.00) Run #1 Drilled from 47'0" To 52'0" ROCK REC. 60" 100% 6 pieces and fragments	

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DRILL RIG OPERATOR R. Malyukov/N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 32
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-32
LINE
STA
OFFSET ft
SURF. ELEV. 32.2

ACTUAL COORDINATES (N) 235,781.150 (E) 1,012,685.880 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	50.0							
		R2						(52.00) Run #2 Drilled from 52'0" To 57'0" ROCK REC. 60" 100% 7 pieces and fragments
	55.0							

BOTTOM OF HOLE AT 57.00 ft

1. *Automatic hammer used, Rig CME 75.*
2. *At surface ~5" asphalt, ~9" concrete*
3. *J7 15' No Recovery. Based on drilled cuttings Brick, Asphalt, Metal, Concrete from ~15-19'.*
4. *40' Estimated top of weathered rock.*
5. *Rollerbit to 47' to core.*
6. *Rig down 6/18/2020 10:00 to 13:40hrs.*
   Rig down 6/19/2020 09:30 to 11:50hrs
   (Mechanic problems)
7. *Vertical Datum NAVD 88*
8. *Core barrel: NQ, double tube*

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
19-Jun-20	08:30			21.80		
22-Jun-20	08:40			22.50		

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DRILL RIG OPERATOR R. Malyukov/N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 3 OF 3 HOLE DN-B-32

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 33
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-33
LINE
STA
OFFSET ft
SURF. ELEV. 31.2

ACTUAL COORDINATES (N) 235,928.150 (E) 1,012,792.280 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-JUN-2020 **DATE FINISH** 23-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.50) CONCRETE	
		J1					2%	(1.10) Gray Sandy GRAVEL, Silty With Red Brick And Mica (POSSIBLE Fill)	(D-NW)
		J2					2%	(2.00) Gray Sandy GRAVEL, Silty With Concrete Pieces And Mica (POSS. Fill)	(D-NW)
	5.0	J3					1%		
		J4	11	16	15	10	9%	(6.00) Brown Sandy GRAVEL, Silty With Concrete Pieces (Possible Fill)	(M-NPL)
	10.0	J5	11	12	6	6	8%	(8.00) Brown Gravelly SAND, Silty	(M-NPL)
		J6	6	19	11	6	15%	(10.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
	15.0	J7	11	12	12	11	7%	(15.00) Brown Silty SAND, Gravelly	(M-NPL)
	20.0	J8	6	55	80	11	16%	(20.00) Brown Silty SAND With Gravel Pieces, Decomposed Rock And Mica	(M-NPL)
	25.0								

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DRILL RIG OPERATOR R. Malykov/N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich / D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-33

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 33
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-33
LINE
STA
OFFSET ft
SURF. ELEV. 31.2

ACTUAL COORDINATES (N) 235,928.150 (E) 1,012,792.280 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-JUN-2020 **DATE FINISH** 23-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	25.0	J9	65	100			14%	(25.00)	Light Brown And Brown Silty SAND With Gravel Pieces, Decomposed Rock And Mica	(M-NPL)
	30.0									
		R1						(30.00)	Run #1 Drilled from 30'0" To 35'0" ROCK REC. 60" 100% 8 pieces and fragments	
	35.0									
		R2						(35.00)	Run #2 Drilled from 35'0" To 40'0" ROCK REC. 60" 100% 6 pieces and fragments	
	40.0									

BOTTOM OF HOLE AT 40.00 ft

1. Automatic hammer used, Rig CME 75.
2. At surface ~6" asphalt, ~7" concrete
3. 26.5' estimated top of weathered rock, 100 blows for 3" penetration
4. Rollerbit to 30'.
5. 3 Mechanical breaks observed in Run 2.
6. Introducted drilling fluid Bentonite at 6'.
7. Borehole grouted upon completion.
8. Vertical Datum NAVD 88
9. No water encountered.
10. Core barrel: NQ, double tube

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR R. Malykov/N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich / D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 34
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-34
LINE
STA
OFFSET ft
SURF. ELEV. 29.9

ACTUAL COORDINATES (N) 236,073.270 (E) 1,012,907.220 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-JUN-2020 **DATE FINISH** 11-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.70) CONCRETE	
		J1					6%	(1.50) Brown Sandy GRAVEL, Silty With Asphalt And Concrete Pieces (P.F.)	(M-NPL)
		J2					10%	(2.00) Brown Gravelly SAND, Silty With Mica And Concrete Pieces (P.F.)	(M-NPL)
	5.0	J3					10%	(4.00) Brown Gravelly SAND, Silty With Red Brick And Mica (P.F.)	(M-NPL)
		J4	3	3	10	7	6%	(6.00) Brown Sandy GRAVEL, Silty With Red Brick And Mica (P.F.)	(M-NPL)
	10.0	J5	5	8	9	9	11%	(8.00) Brown Gravelly SILT, Clayey	(M-LPL)
	15.0	J6	9	11	16	11	18%	(10.00) Brown Clayey SILT, Sandy With Mica	(M-LPL)
	20.0	J7	9	11	11	10	22%	(15.00) Brown Sandy SILT, Clayey	(M-LPL)
	25.0	J8	9	12	11	12	14%	(20.00) Brown Gravelly SILT, Sandy With Mica (PETROLEUM Odor)	(M-NPL)

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CONTRACT _____ **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 34
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
ACTUAL COORDINATES (N) 236,073.270 (E) 1,012,907.220 **DATUM** NAD83

HOLE DN-B-34
LINE
STA
OFFSET ft
SURF. ELEV. 29.9
DEPTH TO WATER SEE NOTE

DATE START 10-JUN-2020 **DATE FINISH** 11-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	50				17%	
		R1						(27.00) Run #1 Drilled from 27'0" To 32'0" ROCK REC. 55.5" 92.5% 15 pieces
	30.0							
		R2						(32.00) Run #2 Drilled from 32'0" To 37'0" ROCK REC. 60" 100% 9 pieces
	35.0							

BOTTOM OF HOLE AT 37.00 ft

1. Automatic hammer used.
2. Inspector: Joanna Smith
3. Rig: CME 75
4. Vertical Datum NAVD 88
5. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
10-Jun-20	12:00			8.00		

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CONTRACT **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 35
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-35
LINE
STA
OFFSET ft
SURF. ELEV. 28.9

ACTUAL COORDINATES (N) 236,171.370 (E) 1,012,990.690 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-JUN-2020 **DATE FINISH** 11-JUN-2020

CASING	**O. D.**	4 1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) COBBLE	
								(0.40) CONCRETE	
		J1					9%	(1.60) Brown Gravelly SAND, Silty	(M-NPL)
		J2					7%	(2.00) Brown Sandy GRAVEL, Silty	(M-NPL)
		J3					9%	(4.00) Brown Gravelly SAND, Silty	(M-NPL)
	5.0								
		J4	5	7	8	7	11%	(6.00) Brown Gravelly SILT, Sandy With Mica	(M-NPL)
		J5	16	5	7	12	11%	(8.00) Brown Clayey SILT, Sandy With Mica	(M-LPL)
	10.0								
		J6	11	8	9	11	18%	(10.00) Brown Clayey SILT W/ Red Brick, Wood Pieces & Mica (Possible Fill)	(M-LPL)
	15.0								
		J7	3	7	12	12	15%	(15.00) Brown And Gray Clayey SILT With Gravel Pieces And Mica (Petroleum Odor)	(M-LPL)
	20.0								
		J8	7	1	7	7	18%	(20.00) Gray Sandy GRAVEL, Silty	(M-NPL)
	25.0								

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 13-AUG-2020 REVISION # 4
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-35

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 35
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-35
LINE
STA
OFFSET ft
SURF. ELEV. 28.9

ACTUAL COORDINATES (N) 236,171.370 (E) 1,012,990.690 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 10-JUN-2020 **DATE FINISH** 11-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	11	50			13%	(25.00) Gray SAND, Silty With Decomposed Rock And Gravel Pieces (M-NPL)
	30.0	R1						(30.00) Run #1 Drilled from 30'0" To 35'0" ROCK REC. 21.6" 36% 6 pieces
	35.0	R2						(35.00) Run #2 Drilled from 35'0" To 40'0" ROCK REC. 22.8" 38% 4 pieces
	40.0							

BOTTOM OF HOLE AT 40.00 ft

1. Automatic hammer used.
2. Inspector: Joanna Smith
3. Rig: CME 75
4. Vertical Datum NAVD 88
5. At 25.5', 50 blows for 2" penetration.
6. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
11-Oct-20	09:30			8.00		

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the material at the site. Interpolation between data samples may not be indicative of the actual material encountered.

CONTRACT **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 13-AUG-2020 REVISION # 4
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 36
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
ACTUAL COORDINATES (N) 236,285.580 (E) 1,013,081.850 **DATUM** NAD83
DATE START 11-JUN-2020 **DATE FINISH** 15-JUN-2020

HOLE DN-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 28.8
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in (0/6, 6/12, 12/18, 18/24)	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0				(0.00) Brown Gravelly SAND, Silty With Mica	(M-NPL)
		J1		12%	(0.40) Brown Gravelly SAND, Silty With Mica	(M-NPL)
		J2		12%	(2.00) Brown Sandy SILT With Pieces Of Gravel And Mica	(M-NPL)
		J3		11%	(4.00) Brown Gravelly SILT, Sandy With Mica	(M-NPL)
	5.0					
		J4		13%	(6.00) Brown Sandy SILT With Pieces Of Gravel And Mica	(M-NPL)
		J5		6%	(8.00) Brown Silty GRAVEL, Sandy With Mica	(M-NPL)
	10.0					
		J6		8%		
	15.0					
		J7		12%	(15.00) Brown Silty GRAVEL With Decomposed Rock And Mica	(M-NPL)
		R1			(18.00) Run #1 Drilled from 18'0" To 23'0" ROCK REC. 12" 20% 3 pieces	
	20.0					
		R2			(23.00) Run #2 Drilled from 23'0" To 28'0" ROCK REC. 52.5" 87.5% 17 pieces and fragments	
	25.0					

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chiollu
SOIL & ROCK DESCRIPTION Fredie
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 36
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-36
LINE
STA
OFFSET ft
SURF. ELEV. 28.8

ACTUAL COORDINATES (N) 236,285.580 (E) 1,013,081.850 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 11-JUN-2020 **DATE FINISH** 15-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							

BOTTOM OF HOLE AT 28.00 ft

1. Automatic hammer used, rig Geoprobe.
2. Borehole grouted on completion.
3. J7: 3" spoon taken, 3" no recovery
4. Vertical Datum NAVD 88
5. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
15-Jun-20	12:10			8.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chiollu
SOIL & ROCK DESCRIPTION Fredie
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 2 OF 2 HOLE DN-B-36

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 37
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-37
LINE
STA
OFFSET ft
SURF. ELEV. 29.8

ACTUAL COORDINATES (N) 236,365.210 (E) 1,013,136.070 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-JUN-2020 **DATE FINISH** 10-JUN-2020

CASING	**O. D.**	4 1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00)	ASPHALT	
								(0.70)	CONCRETE	
		J1					7%	(1.50)	Brown Sandy GRAVEL, Silty With Concrete Pieces And Asphalt	(M-NPL)
		J2					11%	(2.00)	(POSS.FILL) Brown Sandy SILT With Gravel Pieces	(M-NPL)
	5.0	J3					12%			
		J4	2	6	12	13	9%	(6.00)	Brown Sandy SILT With Gravel Pieces And Mica	(M-NPL)
	10.0	J5	16	15	14	17	7%	(8.00)	Brown Gravelly SILT, Sandy With Decomposed Rock And Mica	(M-NPL)
	15.0	J6	16	26	50		7%	(10.00)	Brown Sandy SILT With Gravel Pieces, Decomposed Rock And Mica	(M-NPL)
	20.0	R1						(15.00)	Run #1 Drilled from 15'0" To 20'0" ROCK REC. 57.5" 95.8% 6 pieces	
	25.0	R2						(20.00)	Run #2 Drilled from 20'0" To 25'0" ROCK REC. 45" 75% 7 pieces	
									BOTTOM OF HOLE AT 25.00 ft	

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DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-37

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 37
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-37
LINE
STA
OFFSET ft
SURF. ELEV. 29.8

ACTUAL COORDINATES (N) 236,365.210 (E) 1,013,136.070 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-JUN-2020 **DATE FINISH** 10-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

1. Automatic hammer used.
2. Inspector: Joanna Smith
3. Rig: CME 75
4. Vertical Datum NAVD 88
5. At 0', 8" asphalt, 10" concrete.
6. At 11.5', 50 blows for 6" penetration.
7. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
09-Jun-20	11:00			6.00		

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CONTRACT **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 38
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 31.4

ACTUAL COORDINATES (N) 236,452.850 (E) 1,013,205.940 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-JUN-2020 **DATE FINISH** 09-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
								(0.50) GRAVEL	
		J2					9%	(2.20) Gray Sandy Fine GRAVEL, Silty With Asphalt Pieces (POSSIBLE Fill)	(M-NPL)
	5.0	J3					10%	(4.00) Gray Gravelly SAND, Silty With Asphalt And Concrete Pieces (P.F.)	(M-NPL)
		J4	6	4	6	13	14%	(6.00) Gray Fine Sandy SILT With Gravel Pieces, Decomposed Rock & Mica	(M-LPL)
	10.0	J5	10	10	9	20	13%	(8.00) Gray Sandy SILT, Clayey With Gravel Pieces, Decomposed Rock & Mic	(M-LPL)
		J6	18	10	10	16	13%	(10.00) Brown Sandy SILT With Gravel Pieces	(M-NPL)
	15.0	J7	33	33	34	36	15%	(15.00) Brown Sandy SILT, Clayey With Gravel Pieces And Mica	(M-LPL)
	20.0								
		R1						(22.00) Run #1 Drilled from 22'0" To 27'0" ROCK REC. 60" 100% 9 pieces, fractured	
	25.0								

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DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-38

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 38
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-38
LINE
STA
OFFSET ft
SURF. ELEV. 31.4

ACTUAL COORDINATES (N) 236,452.850 (E) 1,013,205.940 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 09-JUN-2020 **DATE FINISH** 09-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(27.00) Run #2 Drilled from 27'0" To 32'0" ROCK REC. 60" 100% 8 pieces, fractured
	30.0							

BOTTOM OF HOLE AT 32.00 ft

1. *Automatic hammer used.*
2. *Inspector: Joanna Smith. Geotechnical Engineer: AECOM*
3. *Rig: CME 75*
4. *At 0', 6" concrete, 20" fine-medium gravel.*
5. *At 11.5', 50 blows for 4" penetration.*
6. *At 15', 50 blows for 1" penetration.*
7. *Vertical Datum NAVD 88*
8. *J1 0-2' Gray GRAVEL D-NW 0% MC sample received, but in deference to driller's notes 0-2.2' not entered above.*
9. *Core barrel: NQ, double tube*

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
09-Jun-20	09:30			6.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 39
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 31.7

ACTUAL COORDINATES (N) 236,533.070 (E) 1,013,276.460 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 08-JUN-2020 **DATE FINISH** 09-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0							(0.00) CONCRETE
		J1						(0.50) Brown Sandy GRAVEL, Silty With Concrete Pieces (POSSIBLE Fill) (M-NPL)
		J2						
		J3						
	5.0							
		J4	5	2	1	2		(6.00) Brown Sandy GRAVEL, Silty With Decomposed Rock And Mica (M-NPL)
		J5	3	3	3	7		(8.00) Brown Silty SAND With Red Brick, Concrete Pieces And Mica (P.F.) (M-NPL)
	10.0							
		J6	10	7	20	50		
	15.0							
		J7	50					(15.00) Brown Gravelly SAND, Silty With Decomposed Rock (M-NPL)
		R1						(18.00) Run #1 Drilled from 18'0" To 23'0" ROCK REC. 60" 100% 6 pieces, fractured
	20.0							
		R2						(23.00) Run #2 Drilled from 23'0" To 28'0" ROCK REC. 60" 100% 5 pieces, fractured
	25.0							

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR Chris Chaillou
SOIL & ROCK DESCRIPTION
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 39
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-39
LINE
STA
OFFSET ft
SURF. ELEV. 31.7

ACTUAL COORDINATES (N) 236,533.070 (E) 1,013,276.460 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 08-JUN-2020 **DATE FINISH** 09-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							

BOTTOM OF HOLE AT 28.00 ft

1. Automatic hammer used.
2. Inspector: Joanna Smith. Geotechnical Engineer: AECOM
3. Rig: CME 75
4. At 0', 6" concrete.
5. Vertical Datum NAVD 88
6. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
08-Jun-20	12:00			8.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR Chris Chaillou
SOIL & ROCK DESCRIPTION
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 40
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-40
LINE
STA
OFFSET ft
SURF. ELEV. 32

ACTUAL COORDINATES (N) 236,588.870 (E) 1,013,332.000 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in (0/6, 6/12, 12/18, 18/24)	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	0.0				(0.00) ASPHALT
					(1.00) CONCRETE
		J1		7%	(1.80) Brown Silty SAND With Gravel Pieces And Mica (M-NPL)
		J2		7%	(2.00) Brown Gravelly SAND, Silty With Mica (M-NPL)
	5.0				
		J3		6%	(5.00) Brown GRAVEL With Decomposed Rock (M-NPL)
		R1			(7.00) Run #1 Drilled from 7'0" To 12'0" ROCK REC. 59" 98.3% 17 pieces very fractured
	10.0				
		R2			(12.00) Run #2 Drilled from 12'0" To 17'0" ROCK REC. 60" 100% piece count not given
	15.0				

BOTTOM OF HOLE AT 17.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *Inspector: Joanna Smith. Geotechnical Engineer: AECOM*
3. *At surface 12" asphalt, 10" concrete.*
4. *Vertical Datum NAVD 88*
5. *Core barrel: NQ, double tube*

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
24-Jun-20	00:00			NONE		

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DRILL RIG OPERATOR C. Chillou
SOIL & ROCK DESCRIPTION F. Navarro
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 1 HOLE DN-B-40

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 41
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-41
LINE
STA
OFFSET ft
SURF. ELEV. 32.6

ACTUAL COORDINATES (N) 236,668.050 (E) 1,013,370.690 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.60) CONCRETE	
		J1					2%	(1.00) Light Brown Sandy GRAVEL, Silty With Concrete Pieces And Mica	(M-NPL)
		J2					2%		
	5.0								
		J3	66	56	30	38	6%	(6.00) Gray Silty SAND With Decomposed Rock	(M-NPL)
		R1						(8.00) Run #1 Drilled from 8'0" To 13'0" ROCK REC. 57.3" 95.4% 7 pieces, fractured	
	10.0								
		R2						(13.00) Run #2 Drilled from 13'0" To 18'0" ROCK REC. 60" 100% 9 pieces, very fractured	
	15.0								

BOTTOM OF HOLE AT 18.00 ft

1. Automatic hammer used, Rig CME-75
2. Inspector: Joanna Smith. Geotechnical Engineer: AECOM
3. At surface 7" asphalt, 5" concrete.
4. Top of rock 8'.
5. Vertical Datum NAVD 88
6. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
23-Jun-20	09:30			NONE		

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DRILL RIG OPERATOR C. Chillou
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 1 HOLE DN-B-41

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 42
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 34.4

ACTUAL COORDINATES (N) 236,743.660 (E) 1,013,442.500 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 23-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.80) Large GRAVEL	
		J1						(1.50) Brown Clayey SILT, Sandy With Gravel Pieces	(M-LPL)
		J2						(2.00) Brown Sandy GRAVEL, Silty With Brick And Mica (POSSIBLE Fill)	(M-NPL)
	5.0								
		J3						(6.00) Brown Silty SAND, Gravelly	(M-NPL)
		R1						(8.00) Run #1 Drilled from 8'0" To 13'0" ROCK REC. 56.4" 94% 12 pieces, fractured	
	10.0								
		R2						(13.00) Run #2 Drilled from 13'0" To 18'0" ROCK REC. 39.8" 66.3% 13 pieces very fractured	
	15.0								

BOTTOM OF HOLE AT 18.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *Inspector: Joanna Smith. Geotechnical Engineer: AECOM*
3. *At surface 9" asphalt, 9" large gravel.*
4. *Top of rock 8'.*
5. *At 6' 50 blows for 4" penetration.*
6. *Vertical Datum NAVD 88*
7. *Core barrel: NQ, double tube*

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION F. Navarro
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 2 HOLE DN-B-42

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 42
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-42
LINE
STA
OFFSET ft
SURF. ELEV. 34.4

ACTUAL COORDINATES (N) 236,743.660 (E) 1,013,442.500 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 23-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6 6/12 12/18 18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
23-Jun-20	12:00			4.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION F. Navarro
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 2 OF 2 HOLE DN-B-42

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 43
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-43
LINE
STA
OFFSET ft
SURF. ELEV. 36.3

ACTUAL COORDINATES (N) 236,834.290 (E) 1,013,513.340 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 18-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) ASPHALT	
								(0.70) GRAVEL	
		J1					11%	(1.80) Brown Gravelly SAND, Silty With Brick Pieces And Glass	(M-NPL)
		J2					5%	(2.00) (POSSIBLE Fill)	(M-NPL)
								Brown Sandy GRAVEL, Silty With Red Brick Pieces (Possible Fill)	
		J3	50				14%	(4.00) Brown Silty GRAVEL, Sandy With Mica	(M-NPL)
	5.0								
		R1						(7.00) Run #1 Drilled from 7'0" To 12'0" ROCK REC. 57.6" 96% 12 pieces	
	10.0								
		R2						(12.00) Run #2 Drilled from 12'0" To 17'0" ROCK REC. 56" 93.3% 15 pieces	
	15.0								

BOTTOM OF HOLE AT 17.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *Inspector: Joanna Smith. Geotechnical Engineer: AECOM*
3. *At surface 8" asphalt, 13" gravel.*
4. *Top of rock 7'.*
5. *At 4' 50 blows for 2" penetration.*
6. *Borehole grouted upon completion.*
7. *Vertical Datum NAVD 88*
8. *No water encountered.*
9. *Core barrel: NQ, double tube*

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chiollu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SHEET 1 OF 1 HOLE DN-B-43

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 44.1
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-44A
LINE
STA
OFFSET ft
SURF. ELEV. 37.2

ACTUAL COORDINATES (N) 236,928.010 (E) 1,013,579.440 **DATUM** NAD83 **DEPTH TO WATER** NONE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4 1/2	in	**I. D.**	4	in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00)	COBBLES	
		J1					12%	(0.40)	Brown Silty SAND, Gravelly W/ Marl,Red Brick,Concrete&Asphalt (P.F.)	(M-NPL)
		J2					10%	(2.00)	Brown Silty GRAVEL, Sandy With Plaster And Red Brick (POSSIBLE.FILL)	(M-NPL)
	5.0	J3					10%	(4.00)	Brown Silty GRAVEL, Sandy With Red Brick (Possible Fill)	(M-NPL)
		J4	4	6	9	26	6%	(6.00)	Brown Silty GRAVEL, Sandy With Red Brick (Possible Fill)	(M-NPL)
	10.0	J5	22	29	39	41	8%	(8.00)	Brown Silty SAND, Gravelly	(M-NPL)
		J6	33	49	50		8%			
	15.0	R1						(13.00)	Run #1 Drilled from 13'0" To 18'0" ROCK REC. 60" 100% 16 pieces v. fractured and fragments	
	20.0	R2						(18.00)	Run #2 Drilled from 18'0" To 23'0" ROCK REC. 60" 100% 10 pieces fractured, some fragments	

BOTTOM OF HOLE AT 23.00 ft

1. Automatic hammer used, Rig CME-75
2. Vertical Datum NAVD 88

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DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 4
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-44A

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 44.1
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-44A
LINE
STA
OFFSET ft
SURF. ELEV. 37.2

ACTUAL COORDINATES (N) 236,928.010 (E) 1,013,579.440 **DATUM** NAD83 **DEPTH TO WATER** NONE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

3. At surface 4" concrete.
4. Borehole grouted upon completion.
5. At 21' and at 26', 100 blows for 1" penetration.
6. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
24-Jun-20	00:00			NONE		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 4
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 45
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-45
LINE
STA
OFFSET ft
SURF. ELEV. 37.9

ACTUAL COORDINATES (N) 237,006.310 (E) 1,013,641.700 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 17-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					0%	(0.00) ASPHALT	
								(0.80) Coarse GRAVEL	
								(1.50) Gray GRAVEL	(D-NW)
		J2					11%	(2.00) Brown Gravelly SAND, Silty With Pieces Of Brick (Possible Fill)	(M-NPL)
		J3					16%	(4.00) Brown Sandy SILT With Pieces Of Gravel	(M-NPL)
	5.0								
		J4	8	11	11	21	10%		
		J5	20	43	50		6%	(8.00) Brown Sandy GRAVEL, Silty W/Pieces Of Brick And Decomposed Rock (P.F.)	(M-NPL)
	10.0								
		R1						(10.00) Run #1 Drilled from 10'0" To 15'0" ROCK REC. 60" 100% 18 pieces and fragments very fractured	
	15.0								
		R2						(15.00) Run #2 Drilled from 15'0" To 20'0" ROCK REC. 60" 100% 15 pieces fractured	
	20.0								

BOTTOM OF HOLE AT 20.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *No water enounctered.*
3. *At surface 8" asphalt, 7" large gravel.*
4. *Borehole grouted on completion.*
5. *At 9' 50 blows for 2" penetration.*
6. *Vertical Datum NAVD 88*
7. *Boring offset 4' West of original loc. due to concrete obstruction*
8. *No water encountered*
9. *Core barrel: NQ, double tube*

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DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 1 HOLE DN-B-45

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 46
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 37.6

ACTUAL COORDINATES (N) 237,079.020 (E) 1,013,690.820 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0									
		J1					6%	(1.00)	Brown Sandy GRAVEL, Silty With Concrete Pieces And Red Brick (P.F.)	(M-NPL)
	5.0									
		J2	10	12	13	23	11%	(8.00)	Brown Silty SAND With Gravel Pieces	(M-NPL)
	10.0									
		J3	26	37	48	100	8%	(10.00)	Brown Gravelly SAND, Silty With Mica	(M-NPL)
	15.0									
		J4	100				12%	(15.00)	Run #1 Drilled from 15'0" To 20'0" ROCK REC. 60" 100% 10 pieces and fragments	
		R1								
	20.0									
		R2						(20.00)	Run #2 Drilled from 20'0" To 25'0" ROCK REC. 60" 100% 8 pieces and fragments	
	25.0									
									BOTTOM OF HOLE AT 25.00 ft	

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DRILL RIG OPERATOR N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-46

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 46
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-46
LINE
STA
OFFSET ft
SURF. ELEV. 37.6

ACTUAL COORDINATES (N) 237,079.020 (E) 1,013,690.820 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 23-JUN-2020 **DATE FINISH** 24-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

1. Automatic hammer used, Rig CME-75
2. Inspector Hernan Arana
3. At surface 6" asphalt, 6" concrete.
4. Borehole grouted on completion.
5. At 10.5', 100 blows for 4" penetration.
6. J4 depth 15-15.2', entered as 14.75-15' due to overlap with Run 1.
7. At 15', 100 blows for 3" penetration.
8. Estimated top of rock 15'.
9. Mechanic breaks observed: 2 in Run 1, 3 in Run 2.
10. Vertical Datum NAVD 88
11. No water encountered.
12. Core barrel: NQ, double tube

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR N. Marmolejo
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 47
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 37.8

ACTUAL COORDINATES (N) 237,134.830 (E) 1,013,745.350 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-JUN-2020 **DATE FINISH** 19-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					12%	(0.00)	Brown Gravelly SAND, Silty	(M-NPL)
		J2					12%	(2.00)	Brown Sandy GRAVEL, Silty	(M-NPL)
	5.0	J3					14%	(4.00)	Brown Sandy GRAVEL, Silty With Brick Pieces (Possible Fill)	(M-NPL)
		J4					18%	(6.00)	Brown And Gray Sandy GRAVEL, Silty With Brick Pieces And Decomposed Rock (P.F.)	(M-NPL)
	10.0	J5					16%	(8.00)	Brown Sandy SILT, Clayey With Mica	(M-LPL)
	15.0	J6					12%	(10.00)	Brown Sandy SILT, Clayey With Gravel Pieces	(M-LPL)
	20.0	J7					8%	(15.00)	Brown Gravelly SAND, Silty With Mica	(M-NPL)
	25.0	R1						(20.00)	Run #1 Drilled from 20'0" To 25'0" ROCK REC. 57.6" 96% 10 pieces	

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DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 47
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-47
LINE
STA
OFFSET ft
SURF. ELEV. 37.8

ACTUAL COORDINATES (N) 237,134.830 (E) 1,013,745.350 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-JUN-2020 **DATE FINISH** 19-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R2						(25.00) Run #2 Drilled from 25'0" To 30'0" ROCK REC. 56.4" 94% 9 pieces
	30.0							

BOTTOM OF HOLE AT 30.00 ft

1. Automatic hammer used, Rig CME-75
2. At 16.5' 50 blows for 1" penetration.
3. Vertical Datum NAVD 88
4. No water encountered.
5. Introduced drilling fluid (Bentonite) at 10'
6. Core barrel: NQ, double tube

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 48
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 37.8

ACTUAL COORDINATES (N) 237,199.350 (E) 1,013,793.630 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-JUN-2020 **DATE FINISH** 19-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
		J1					6%	(0.30) Brown Sandy GRAVEL With Concrete Pieces (POSSIBLE Fill)	(M-NPL)
		J2					6%	(2.00) Brown Sandy GRAVEL	(M-NPL)
		J3						(4.00) NOT RECEIVED Driller: Brown SAND Gravelly	
	5.0								
		J4	1	2	2	4	12%	(6.00) Brown Gravelly SAND, Silty	(M-NPL)
		J5	6	5	2	2	11%	(8.00) Brown Sandy GRAVEL, Silty With Red Brick (Possible Fill)	(M-NPL)
	10.0								
		J6	5	5	6	15	20%	(10.00) Brown And Gray Layered Clayey SILT With Gravel Pieces	(M-LPL)
	15.0								
		J7	23	20	21	25	14%	(15.00) Brown Clayey SILT/SILTY CLAY With Gravel Pieces And Mica	(M-PL)
	20.0								
		J8	27	27	100		10%	(20.00) Brown Gravelly SAND, Silty With Decomposed Rock And Mica	(M-NPL)
	25.0								

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DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 48
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-48
LINE
STA
OFFSET ft
SURF. ELEV. 37.8

ACTUAL COORDINATES (N) 237,199.350 (E) 1,013,793.630 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 19-JUN-2020 **DATE FINISH** 19-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	27	27	100		12%	(25.00) Brown Sandy GRAVEL, Silty With Decomposed Rock And Mica (M-NPL)
	30.0	R1						(30.00) Run #1 Drilled from 30'0" To 35'0" ROCK REC. 57" 95% 6 pieces
	35.0	R2						(35.00) Run #2 Drilled from 35'0" To 40'0" ROCK REC. 6" 10% 5 pieces
	40.0							

BOTTOM OF HOLE AT 40.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *At 21' and at 26', 100 blows for 1" penetration.*
3. *No water encountered.*
4. *Vertical Datum NAVD 88*
5. *Introducted drilling fluid (Bentonite) at 10'.*
6. *Core barrel: NQ, double tube*

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 49
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 38.5
ACTUAL COORDINATES (N) 237,266.600 (E) 1,013,852.910 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 15-JUN-2020 **DATE FINISH** 17-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00) CONCRETE	
								(0.60) GRAVEL	
		J1						(1.70) Brown Gravelly SAND, Silty	(M-NPL)
		J2						(2.00) Brown Sandy GRAVEL, Silty	(M-NPL)
		J3						(4.00) Brown Gravelly SAND, Silty	(M-NPL)
	5.0								
		J4	1	1	1	1		(6.00) Brown Clayey SILT With Pieces Of Gravel And Mica	(M-LPL)
		J5	1	1	2	2			
	10.0								
		J6	2	2	3	4		(10.00) Brown And Gray Silty CLAY With Pieces Of Gravel	(M-PL)
	15.0								
		J7	6	7	10	50		(15.00) Brown Clayey SILT Sandy With Pieces Of Gravel	(M-LPL)
	20.0								
		J8	35	50				(20.00) Gray Sandy GRAVEL, Silty With Mica	(M-NPL)
		R1						(22.00) Run #1 Drilled from 22'0" To 27'0" ROCK REC. 37" 61.7% 7 pieces and fragments	
	25.0								

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DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-49

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 49
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-49
LINE
STA
OFFSET ft
SURF. ELEV. 38.5

ACTUAL COORDINATES (N) 237,266.600 (E) 1,013,852.910 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 15-JUN-2020 **DATE FINISH** 17-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0							
		R2						(27.00) Run #2 Drilled from 27'0" To 32'0" ROCK REC. 47" 78.3% 11 pieces
	30.0							

BOTTOM OF HOLE AT 32.00 ft

1. Automatic hammer used, Rig CME-75
2. At surface 7" asphalt, 13" gravel.
3. Borehole grouted on completion.
4. At 16.5' 50 blows for 1" penetration.
5. At 20.5' 50 blows for 2" penetration.
6. Vertical Datum NAVD 88
7. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
17-Jun-20	10:00			15.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 50
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-50
LINE
STA
OFFSET ft
SURF. ELEV. 39.6

ACTUAL COORDINATES (N) 237,341.000 (E) 1,013,905.490 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00)	COBBLE	
		J1					9%	(0.40)	Brown Silty SAND With Gravel Pieces	(M-NPL)
		J2					10%	(2.00)	Brown Gravelly SAND, Silty	(M-NPL)
		J3					11%	(4.00)	Brown Silty SAND With Gravel Pieces	(M-NPL)
	5.0									
		J4	2	2	2	3	12%	(6.00)	Brown Silty GRAVEL, Sandy With Concrete Pieces, Red Brick&Mica(P.F.)	(M-NPL)
		J5	4	5	5	3	17%	(8.00)	Brown Sandy SILT, Clayey With Gravel Peices Decomposed Rock And Mica	(M-LPL)
	10.0									
		J6	12	15	50		12%	(10.00)	Brown And Gray Silty GRAVEL, Sandy	(M-NPL)
		R1						(12.00)	Run #1 Drilled from 12'0" To 17'0" ROCK REC. 48.8" 81.3% 5 pieces very fractured	
	15.0									
								(15.00)	Run #1 Drilled From 15'0" To 20'0" ROCK	
	20.0									
		J7	10	11	12	13	25%	(20.00)	Brown Silty Fine SAND With Mica	(M-NPL)
	25.0									

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DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich / D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 3 HOLE DN-B-50

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 50
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-50
LINE
STA
OFFSET ft
SURF. ELEV. 39.6

ACTUAL COORDINATES (N) 237,341.000 (E) 1,013,905.490 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK
	25.0	J8	19	28	28	20	15%	(25.00)	Brown Silty Fine SAND With Gravel Pieces, Decomposed Rock And Mica (M-NPL)
	30.0	J9	50				18%		
		R2						(33.00)	Run #2 Drilled from 33'0" To 38'0" ROCK REC. 55" 91.7% 13 pieces very fractured
	35.0								
		R3						(38.00)	Run #3 Drilled from 38'0" To 43'0" ROCK REC. 58.3" 97.1% 10 pieces fractured
	40.0								

BOTTOM OF HOLE AT 43.00 ft

1. Automatic hammer used, Rig CME-75
3. At surface 5" cobble.
4. Borehole grouted on completion.
5. At 11', 50 blows for 2" penetration.
6. At 30' 50 blows for 1" penetration.
7. Vertical Datum NAVD 88
8. At 15' rock core driller's description: Inwood MARBLE and Schist, 5 pieces, intensely fractured, 2 to 11.25" long.
9. Core barrel: NQ, double tube

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DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich / D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 50
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-50
LINE
STA
OFFSET ft
SURF. ELEV. 39.6

ACTUAL COORDINATES (N) 237,341.000 (E) 1,013,905.490 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 18-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4	**in**	**I. D.**		**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6 6/12 12/18 18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
25-Jun-20	10:00			10.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich / D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 51
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-51
LINE
STA
OFFSET ft
SURF. ELEV. 40.7

ACTUAL COORDINATES (N) 237,390.380 (E) 1,013,945.330 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 17-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1					6%	(0.00) CONCRETE 5" Gravel (Sic) (0.40) Brown Gravelly SAND, Silty With Concrete Pieces And Mica (P.F.)	(M-NPL)
		J2					6%	(2.00) Brown Sandy SILT With Gravel Piecs, Concrete Pieces (Possible Fill)	(M-NPL)
	5.0	J3					6%	(4.00) Brown Gravelly SILT, Sandy With Concrete Pieces And Mica (P.F.)	(M-NPL)
		J4	1	2	2	2	13%	(6.00) Brown Silty SAND, Gravelly With Decomposed Rock,Red Brick&Mica(P.F.)	(M-NPL)
	10.0	J5	2	4	4	4	15%	(8.00) Brown Clayey SILT With Gravel Pieces And Red Brick (POSSIBLE Fill)	(M-LPL)
	15.0	J6	10	8	9	12	14%		
	20.0	J7	21	50			23%	(15.00) Brown Clayey SILT, Fine Sandy With Mica	(M-LPL)
	25.0	J8	45	33	25	25	14%	(20.00) Brown Silty SAND With Mica	(M-NPL)

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DRILL RIG OPERATOR C. Chaiollu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-51

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 51
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-51
LINE
STA
OFFSET ft
SURF. ELEV. 40.7

ACTUAL COORDINATES (N) 237,390.380 (E) 1,013,945.330 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 17-JUN-2020 **DATE FINISH** 17-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	J9	12	50			12%	(25.00) Brown Silty SAND With Mica (M-NPL)
	30.0	J10	17	50			17%	
	35.0	R1						(35.00) Run #1 Drilled from 35'0" To 40'0" ROCK REC. 44" 73.3% 8 pieces
	40.0	R2						(40.00) Run #2 Drilled from 40'0" To 45'0" ROCK REC. 60" 100% 20 pieces
	45.0							

BOTTOM OF HOLE AT 45.00 ft

1. *Automatic hammer used, Rig CME-75*
2. *Vertical Datum NAVD 88*
3. *At surface 5" asphalt, 7" gravel.*
4. *Borehole grouted on completion.*
5. *At 15.5' 50 blows for 2" penetration.*
6. *At 25.5' 50 blows for 1" penetration.*
7. *At 30.5' 50 blows for 1" penetration.*
8. *No water encountered.*
9. *Core barrel: NQ, double tube*

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DRILL RIG OPERATOR C. Chaiollu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 3
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 52
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-52
LINE
STA
OFFSET ft
SURF. ELEV. 42.5

ACTUAL COORDINATES (N) 237,446.210 (E) 1,013,991.180 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 22-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)		DESCRIPTION OF SOIL AND ROCK	
	0.0							(0.00)	COBBLES	
		J1					6%	(0.40)	Brown Sandy GRAVEL, Silty With Mica	(M-NPL)
		J2					3%	(2.00)	Brown Silty SAND, Gravelly With Mica	(M-NPL)
	5.0	J3					2%	(4.00)	Brown Gravelly SAND, Silty	(D-NW)
		J4	1	7	8	7	7%	(6.00)	Brown Gravelly SAND, Silty With Mica	(M-NPL)
	10.0	J5	1	5	8	5	9%	(8.00)	Brown Gravelly SILT, Sandy With Mica	(M-NPL)
	15.0	J6	3	8	5	3	22%	(10.00)	Brown Clayey SILT With Gravel Pieces And Mica	(M-LPL)
	20.0	J7	12	13	11	11	19%	(15.00)	Brown Silty SAND With Gravel Pieces, Decomposed Rock And Mica	(M-NPL)
	25.0	J8	17	21	23	28	14%	(20.00)	Brown Silty SAND With Decomposed Rock And Mica	(M-NPL)

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DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

CONTRACT D900051 **CONTRACTOR** ADT

SHEET 1 OF 2 HOLE DN-B-52

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 52
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
HOLE DN-B-52
LINE
STA
OFFSET ft
SURF. ELEV. 42.5
ACTUAL COORDINATES (N) 237,446.210 (E) 1,013,991.180 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE
DATE START 22-JUN-2020 **DATE FINISH** 22-JUN-2020

CASING	**O. D.**	4 1/2	**in**	**I. D.**	4	**in**	**WT OF HAMMER-CASING**	140	**lb**	**HAMMER FALL-CASING**	30	**in**
SAMPLER	**O. D.**	2	**in**	**I. D.**	1 3/8	**in**	**WT OF HAMMER-SAMPLER**	140	**lb**	**HAMMER FALL-SAMPLER**	30	**in**

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" To 30'0" ROCK REC. 44.3" 73.8% 17 pieces
	30.0							
		R2						(30.00) Run #2 Drilled from 30'0" To 35'0" ROCK REC. 19.5" 32.5% 19 pieces
	35.0							

BOTTOM OF HOLE AT 35.00 ft

1. Automatic hammer used, Rig CME-75.
2. Inspector: Joanna Smith. Geotechnical Engineer: AECOM
3. Vertical Datum NAVD 88
4. Core barrel: NQ, double tube

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
22-Jun-20	10:30			8.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chaillou
SOIL & ROCK DESCRIPTION A. Zerebovich/D. Landau
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 2
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 53
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT

HOLE DN-B-53
LINE
STA
OFFSET ft
SURF. ELEV. 44.6

ACTUAL COORDINATES (N) 237,503.460 (E) 1,014,036.210 **DATUM** NAD83 **DEPTH TO WATER** SEE NOTE

DATE START 15-JUN-2020 **DATE FINISH** 16-JUN-2020

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK	
	0.0	J1						(0.00) Brown Silty SAND With Gravel Pieces	(M-NPL)
		J2							
	5.0	J3							
		J4	3	2	2	2		(6.00) Brown Silty SAND With Gravel Pieces And Red Brick (Possible Fill)	(M-NPL)
	10.0	J5	3	5	7	2		(8.00) Brown Clayey SILT With Gravel Pieces And Decomposed Rock	(M-LPL)
	15.0	J6	10	10	10	15			
	20.0	J7	12	17	21	28		(15.00) Brown Clayey SILT With Decomposed Rock And Mica	(M-LPL)
	25.0	J8	20	37	53	66		(20.00) Brown Sandy SILT With Gravel Pieces And Decomposed Rock	(M-NPL)

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

SM 282 E 12/02

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING BUREAU
SUBSURFACE EXPLORATION LOG

PSN 12854 BORNUM 53
REGION 11
COUNTY BRONX
PIN X731.64
PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT
ACTUAL COORDINATES (N) 237,503.460 (E) 1,014,036.210 **DATUM** NAD83
DATE START 15-JUN-2020 **DATE FINISH** 16-JUN-2020

HOLE DN-B-53
LINE
STA
OFFSET ft
SURF. ELEV. 44.6
DEPTH TO WATER SEE NOTE

CASING	**O. D.**	4	in	**I. D.**		in	**WT OF HAMMER-CASING**	140	lb	**HAMMER FALL-CASING**	30	in
SAMPLER	**O. D.**	2	in	**I. D.**	1 3/8	in	**WT OF HAMMER-SAMPLER**	140	lb	**HAMMER FALL-SAMPLER**	30	in

CASING BLOWS/ft	DEPTH ft BELOW SURFACE	SAMPLE NO.	BLOWS ON SAMPLER in 0/6	6/12	12/18	18/24	MOIST. CONT. (%)	DESCRIPTION OF SOIL AND ROCK
	25.0	R1						(25.00) Run #1 Drilled from 25'0" To 30'0" ROCK REC. 51.5" 85.8% 13 pieces very fractured
	30.0	R2						(30.00) Run #2 Drilled from 30'0" To 35'0" ROCK REC. 60" 100% 7 pieces, fractured
	35.0							

BOTTOM OF HOLE AT 35.00 ft

1. *Automatic hammer used, Rig type Geoprobe.*
2. *Inspector: Joanna Smith. Geotechnical Engineer: AECOM*
3. *At surface 5" cobble stone.*
4. *Top of rock 25'.*
5. *Vertical Datum NAVD 88*
6. *Core barrel: NQ, double tube*

DATE	TIME	DEPTH ft			ARTESIAN HEAD HEIGHT ABOVE GROUND	FILLED WITH WATER AT END OF DAY
		HOLE	CASING	WATER		
16-Jun-20	10:30			10.00		

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CONTRACT D900051 **CONTRACTOR** ADT

DRILL RIG OPERATOR C. Chioullu
SOIL & ROCK DESCRIPTION A. Zerebovich/T. Kaufmann
REG GEOTECHNICAL ENGINEER Peter Wytrwal
DATE APPROVED 12-AUG-2020 REVISION # 1
RESIDENT ENGINEER
STRUCTURE NAME **B.I.N.**

ROCK CORE EVALUATION LOGS

PSN 12854 BORNUM 32 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-32 *Page 1 of 1*

SURFACE ELEVATION (ft) 32.2
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) -14.8
ELEVATION TOP OF SOUND ROCK (ft) -15.35
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of Run 1.
Top of sound rock = 0.55' below top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	47.	52.	**100**	**80**	6 pieces and fragments	Rock type(s): schistose gneiss Color: medium gray to light gray with moderate yellowish brown on fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 30°, 58°, 65° Size range of pieces: fragments to 1.35' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	52.	57.	**100**	**82**	7 pieces and fragments	Rock type(s): schistose gneiss Color: medium gray to light gray with moderate yellowish brown on fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 53°, 66° Size range of pieces: 0.03' to 1.00' Hardness: moderately hard Degree of weathering: slightly weathered

Matt Bar
ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
DATE

The subsurface information shown here was obtained for design and estimate purposes. It is made available so that the users may have access to the same information available to the State. It is presented in good faith. By the nature of the exploration process, the information represents only a small fraction of the total volume of the materail at the site. Interpolation between samples may not be indicative of the actual material encountered.

PSN 12854 BORNUM 33 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-33 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.2
CORE SIZE & BARREL TYPE _
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 1.2
ELEVATION TOP OF SOUND ROCK (ft) 1.2
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Sound Rock = Top of Run 1

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	30.	35.	**100**	**74**	8 pieces and fragments	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 40°, 27°, 18°, 66°, 70°, 29°, 43° Size range of pieces: fragments to 0.9' Hardness: hard Degree of weathering: slightly weathered
R-2	35.	40.	**100**	**58**	6 pieces and fragments	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 45°, 35°, 60°, 24°, 41°, 38° Size range of pieces: fragments to 1.0' Hardness: hard Degree of weathering: slightly weathered

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8/17/2020
DATE

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PSN 12854 BORNUM 34 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-34 *Page 1 of 1*

SURFACE ELEVATION (ft) 29.9
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 2.9
ELEVATION TOP OF SOUND ROCK (ft) 0.9
EVALUATION DATE 7/20/2020

Comments: Top of rock = top of Run 1.
Top of sound rock = two feet below top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	27.	32.	**92.5**	**12**	15 pieces	Rock type(s): schistose gneiss Color: dark gray to medium light gray; light brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly foliated Fracture density: very intensely to intensely fractured Fracture angles: sub-horizontal, sub-vertical, 23°, 26°, 29°, 34°, 40°, 42° Size range of pieces: fragments to 0.60'; bagged fragments @ 1.00' to 1,40', 2.60' to 3,30', & 4.00' to 4.25' Hardness: very hard Degree of weathering: moderately to slightly weathered
R-2	32.	37.	**100**	**63**	9 pieces	Rock type(s): schistose gneiss Color: dark gray to medium gray. HCl reaction: no reaction Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: 20°, 30°, 35°, 38°, 42°, 48°, 56°, 64° Size range of pieces: fragments to 0.70'; bagged fragments @ 2.55' to 3.25' Hardness: very hard Degree of weathering: moderately to slightly weathered

ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
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PSN 12854 BORNUM 35 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-35 *Page 1 of 1*

SURFACE ELEVATION (ft) 28.9 ELEVATION TOP OF ROCK (ft) -0.1

CORE SIZE & BARREL TYPE - ELEVATION TOP OF SOUND ROCK (ft)

CORE EVALUATED BY BMP/KS EVALUATION DATE 7/21/2020

Comments: Top of rock = top of Run 1.
No sound rock encountered.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	30.	35.	**36**	**7**	6 pieces	Rock type(s): schistose gneiss Color: light gray to medium gray HCl reaction: no reaction Bedding: thinly foliated Fracture density: very intensely to intensely fractured Fracture angles: sub-horizontal Size range of pieces: fragments to 0.33'; mud seam @ 0.35' to 1.25' Hardness: gneiss moderately hard; mud seam very soft Degree of weathering: gneiss slightly weathered; mud seam residual soil
R-2	35.	40.	**38**	**0**	4 pieces	Rock type(s): schistose gneiss Color: light gray to medium gray HCl reaction: no reaction Bedding: thinly foliated Fracture density: very intensely to intensely fractured Fracture angles: sub-horizontal, sub-vertical Size range of pieces: fragments to 0.20'; mud seam @ 0.00' to 0.75' Hardness: gneiss moderately hard; mud seam very soft Degree of weathering: gneiss slightly weathered; mud seam residual soil

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PSN 12854 BORNUM 36 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-36 *Page 1 of 1*

SURFACE ELEVATION (ft) 28.8
CORE SIZE & BARREL TYPE _
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 10.8
ELEVATION TOP OF SOUND ROCK (ft) 5.8
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of Run 1.
Top of sound rock = top of Run 2.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	18.	23.	**20**	**0**	3 pieces	Rock type(s): schistose gneiss Color: medium gray; dark yellowish orange on some fracture surfaces HCl reaction: no reaction Bedding: thinly foliated Fracture density: very intensely fractured Fracture angles: 9°, 24° Size range of pieces: fragments to 0.25' Hardness: very hard Degree of weathering: slightly to highly weathered
R-2	23.	28.	**87.5**	**17**	17 pieces and fragments	Rock type(s): schistose gneiss Color: medium gray; dark yellowish orange on some fracture surfaces HCl reaction: no reaction Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 12°, 13°, 20°, 24°, 25°, 27°, 29°, 31°, 34°, 35°, 40°, 43°, 54° Size range of pieces: fragments to 0.45' Hardness: moderately hard Degree of weathering: slightly weathered

ENGINEERING GEOLOGY SUPERVISOR

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PSN 12854 BORNUM 37 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-37 *Page 1 of 1*

SURFACE ELEVATION (ft) 29.8
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/ks

ELEVATION TOP OF ROCK (ft) 14.8
ELEVATION TOP OF SOUND ROCK (ft) 14.8
EVALUATION DATE 7/20/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	15.	20.	**95.8**	**93**	6 pieces	Rock type(s): gneiss Color: light gray to medium dark gray HCl reaction: no reaction Bedding: thinly foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal, 29°, 32°, 39° Size range of pieces: 0.09' to 1.58' Hardness: very hard Degree of weathering: slightly weathered
R-2	20.	25.	**75**	**36**	7 pieces	Rock type(s): gneiss Color: light gray to medium dark gray; moderate yellowish brown weathered zone @ 2.50' to 3.65' HCl reaction: no reaction Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 28°, 33°, 34° Size range of pieces: fragments to 0.95' Hardness: very hard; weathered zone very soft Degree of weathering: slightly weathered; weathered zone moderately weathered

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PSN 12854 BORNUM 38 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-38 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.4
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 9.4
ELEVATION TOP OF SOUND ROCK (ft) 9.4
EVALUATION DATE 7/20/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	22. - 27.	**100**	**72**	9 pieces, fractured	Rock type(s): schistose gneiss Color: medium dark gray to very light gray with light brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 25°, 26°, 28°, 30°, 34°, 41° Size range of pieces: 0.05' to 2.10' Hardness: very hard Degree of weathering: slightly weathered
R-2	27. - 32.	**100**	**74**	8 pieces, fractured	Rock type(s): schistose gneiss Color: medium dark gray to very light gray with light brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 48°, 49° Size range of pieces: 0.08' to 1.70' Hardness: very hard Degree of weathering: slightly weathered

Mark Bal
ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
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PSN 12854 BORNUM 39 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-39 *Page 1 of 1*

SURFACE ELEVATION (ft) 31.7
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 13.7
ELEVATION TOP OF SOUND ROCK (ft) 13.7
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Sound Rock = Top of Run 1

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	18.	23.	**100**	**96**	6 pieces, fractured	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 74° Size range of pieces: 0.2' to 1.35' Hardness: hard Degree of weathering: fresh
R-2	23.	28.	**100**	**100**	5 pieces, fractured	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 40°, 31° Size range of pieces: 0.78' to 1.3' Hardness: hard Degree of weathering: slightly weathered

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PSN 12854 BORNUM 40 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-40 *Page 1 of 1*

SURFACE ELEVATION (ft) 32
CORE SIZE & BARREL TYPE _
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 25
ELEVATION TOP OF SOUND ROCK (ft) 25
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Sound Rock = Top of Run 1

Run#	Depth (ft) From To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE Descriptive Log Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	7. - 12.	**98.3**	**35**	17 pieces very fractured	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, sub-vertical, 47°, 31°, 28°, 40°, 32°, 44°, 16° Size range of pieces: 0.05' to 0.5' Hardness: hard Degree of weathering: slightly weathered
R-2	12. - 17.	**100**	**56**	piece count not given	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 28°, 43°, 56°, 15°, 17° Size range of pieces: fragments to 1.01' Hardness: hard Degree of weathering: slightly weathered

[signature]
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PSN 12854 BORNUM 41 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-41 *Page 1 of 1*

SURFACE ELEVATION (ft) 32.6
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KAS

ELEVATION TOP OF ROCK (ft) 24.6
ELEVATION TOP OF SOUND ROCK (ft) 24.6
EVALUATION DATE 7/15/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	8.	13.	**95.4**	**83**	7 pieces, fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: 15°, 30°, 35°, 36°, 37° Size range of pieces: 0.30' to 1.25' Hardness: very hard Degree of weathering: slightly weathered
R-2	13.	18.	**100**	**76**	9 pieces, very fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 29°, 32°, 57°, 60° Size range of pieces: fragments to 1.14' Hardness: top 3.80' very hard, 3.80'-4.20' moderately soft, 4.20'-4.65' very hard, remainder moderately soft Degree of weathering: slightly weathered

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PSN 12854 BORNUM 42 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-42 *Page 1 of 1*

SURFACE ELEVATION (ft) 34.4
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KAS

ELEVATION TOP OF ROCK (ft) 26.4
ELEVATION TOP OF SOUND ROCK (ft) 26.4
EVALUATION DATE 7/15/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	8.	13.	**94**	**67**	12 pieces, fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 21°, 35°, 46°, 50°, 63° Size range of pieces: 0.10' to 0.80' Hardness: very hard Degree of weathering: slightly weathered
R-2	13.	18.	**66.3**	**50**	13 pieces very fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: top 2.25' intensely fractured, remainder moderately fractured Fracture angles: sub-horizontal, sub-vertical, 15°, 22°, 28°, 33°, 36°, 38°, 50° Size range of pieces: 0.10' to 1.05' Hardness: very hard Degree of weathering: fresh

Matt Bal
ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
DATE

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PSN 12854 BORNUM 43 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-43 *Page 1 of 1*

SURFACE ELEVATION (ft) 36.3
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 29.3
ELEVATION TOP OF SOUND ROCK (ft) 29.3
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	7.	12.	**96**	**62**	12 pieces	Rock type(s): schist Color: light gray to medium dark gray HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 19°, 24°, 25°, 30°, 35° Size range of pieces: 0.20' to 0.65' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	12.	17.	**93.3**	**47**	15 pieces	Rock type(s): schist Color: light gray to medium dark gray HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 15°, 23°, 24°, 27°, 30°, 33°, 35°, 40°, 68° Size range of pieces: fragments to 0.50' Hardness: moderately hard Degree of weathering: slightly weathered

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PSN 12854 BORNUM 44.1 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-44A *Page 1 of 1*

SURFACE ELEVATION (ft) 37.2
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 24.2
ELEVATION TOP OF SOUND ROCK (ft) 24.2
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Sound Rock = Top of Run 1

*run 1 core is in box where run 2 core should be and vice versa

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	13.	18.	**100**	**36**	16 pieces v. fractured and fragments	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 40°, 36°, 20°, 40°, 22°, 21°, 45°, 37°, 30° Size range of pieces: fragments to 0.63' Hardness: hard Degree of weathering: slightly weathered
R-2	18.	23.	**100**	**56**	10 pieces fractured, some fragments	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 25°, 31°, 30° Size range of pieces: fragments to 0.9' Hardness: hard Degree of weathering: slightly weathered

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PSN 12854 BORNUM 45 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-45 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.9 ELEVATION TOP OF ROCK (ft) 27.9

CORE SIZE & BARREL TYPE _ ELEVATION TOP OF SOUND ROCK (ft) 27.9

CORE EVALUATED BY BMP/KS EVALUATION DATE 7/21/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Core runs placed backwards in box.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	10.	15.	**100**	**14**	18 pieces and fragments very fractured	Rock type(s): schist Color: medium light gray to medium gray with moderate yellowish-brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: very intensely to intensely fractured Fracture angles: sub-horizontal, sub-vertical, 18°, 19°, 25°, 26°, 28°, 30°, 31°, 35° Size range of pieces: fragments to 0.40'; bagged fragments @ 2.20' to 2.45' & 3.05' to 3.20' Hardness: moderately soft Degree of weathering: moderately weathered
R-2	15.	20.	**100**	**50**	15 pieces fractured	Rock type(s): schist Color: medium light gray to medium gray with moderate yellowish-brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: very intensely to intensely fractured Fracture angles: sub-horizontal, sub-vertical, 12°, 14°, 15°, 16°,18°, 20°, 21°, 31°, 55° Size range of pieces: fragments to 0.55' Hardness: moderately soft Degree of weathering: slightly weathered

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PSN 12854 BORNUM 46 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-46 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.6
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KAS

ELEVATION TOP OF ROCK (ft) 22.6
ELEVATION TOP OF SOUND ROCK (ft) 22.6
EVALUATION DATE 7/15/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	15.	20.	**100**	**50**	10 pieces and fragments	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 18°, 20°, 21°, 25°, 28°, 29°, 45° Size range of pieces: fragments to 1.20' Hardness: very hard Degree of weathering: slightly weathered
R-2	20.	25.	**100**	**50**	8 pieces and fragments	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 21°, 35°, 55° Size range of pieces: fragments to 1.10' Hardness: very hard Degree of weathering: slightly weathered

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8/17/2020
DATE

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PSN 12854 BORNUM 47 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-47 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.8
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 17.8
ELEVATION TOP OF SOUND ROCK (ft) 17.8
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run 2 core placed in box backwards.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	20.	25.	**100**	**43**	core info not given	Rock type(s): schist Color: medium dark gray to medium light gray with dark yellowish-orange on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 19°, 20°, 23°, 24° Size range of pieces: fragments to 0.50' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	25.	30.	**100**	**49**	core info not given	Rock type(s): schist Color: medium dark gray to medium light gray with dark yellowish-orange on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 13°, 20°, 23°, 28°, 29°, 33°, 55°, 70° Size range of pieces: fragments to 1.15' Hardness: moderately hard Degree of weathering: slightly weathered

ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
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PSN 12854 BORNUM 48 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-48 *Page 1 of 1*

SURFACE ELEVATION (ft) 37.8
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 7.8
ELEVATION TOP OF SOUND ROCK (ft) 7.8
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	30.	35.	**100**	**85**	length and rqd not given	Rock type(s): schist Color: light gray to medium light gray HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately fractured Fracture angles: sub-horizontal, 18°, 22°, 28°, 30°, 62° Size range of pieces: fragments to 1.30' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	35.	40.	**100**	**87**	length and rqd not given	Rock type(s): schist Color: light gray to medium light gray HCl reaction: no reaction Bedding: thinly-foliated Fracture density: moderately to slightly fractured Fracture angles: sub-horizontal, 75°, 76° Size range of pieces: fragments to 2.00' Hardness: moderately hard Degree of weathering: slightly weathered

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PSN 12854 BORNUM 49 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-49 *Page 1 of 1*

SURFACE ELEVATION (ft) 38.5
CORE SIZE & BARREL TYPE _
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 16.5
ELEVATION TOP OF SOUND ROCK (ft) 16.5
EVALUATION DATE 7/21/2020

Comments: Top of rock = top of sound rock = top of Run 1.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	22.	27.	**61.7**	**18**	7 pieces and fragments	Rock type(s): schist Color: medium light gray to medium dark gray with grayish-orange fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, sub-vertical Size range of pieces: fragments to 0.50'; bagged fragments @ 0.90' to 1.20', 1.70' to 2.20', & 2.50' to 3.00' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	27.	32.	**78.3**	**46**	11 pieces	Rock type(s): schist Color: medium light gray to medium dark gray with grayish-orange fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 55° Size range of pieces: 0.08' to 0.65' Hardness: moderately hard Degree of weathering: slightly weathered

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PSN 12854 BORNUM 50 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-50 *Page 1 of 1*

SURFACE ELEVATION (ft) 39.6
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KAS

ELEVATION TOP OF ROCK (ft) 6.6
ELEVATION TOP OF SOUND ROCK (ft) 6.6
EVALUATION DATE 7/15/2020

Comments: Top of rock = top of sound rock = top of Run 2.

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	12.	17.	**81.3**	**0**	5 pieces very fractured	Boulder
R-2	33.	38.	**91.7**	**51**	13 pieces very fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 20°, 23°, 40° Size range of pieces: 0.05' to 0.90' Hardness: very hard Degree of weathering: fresh
R-3	38.	43.	**97.1**	**73**	10 pieces fractured	Rock type(s): schist Color: very light gray to grayish black HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, 25°, 40°, 50° Size range of pieces: 0.05' to 0.90' Hardness: very hard Degree of weathering: fresh

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PSN 12854 BORNUM 51 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-51 *Page 1 of 1*

SURFACE ELEVATION (ft) 40.7
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY BMP/KS

ELEVATION TOP OF ROCK (ft) 5.7
ELEVATION TOP OF SOUND ROCK (ft) 0.7
EVALUATION DATE 7/20/2020

Comments: Top of rock = top of Run 1.
Top of sound rock = top of Run 2.

Run#	Depth (ft) From To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE Descriptive Log Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	35. - 40.	100	16		Rock type(s): schist Color: medium gray with moderate brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, sub-vertical, 25°, 29° Size range of pieces: fragments to 0.50'; bagged fragments at top 0.90', 1.70' to 2.00', & 2.90' to 3.55' Hardness: moderately soft Degree of weathering: moderately weathered
R-2	40. - 45.	100	24		Rock type(s): schist Color: medium gray with moderate brown on some fracture surfaces HCl reaction: no reaction Bedding: thinly-foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, sub-vertical, 21°, 31°, 35°, 42° Size range of pieces: fragments to 0.50' Hardness: moderately soft Degree of weathering: moderately weathered

Matt Bal
ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
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PSN 12854 BORNUM 52 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-52 *Page 1 of 1*

SURFACE ELEVATION (ft) 42.5
CORE SIZE & BARREL TYPE
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 17.5
ELEVATION TOP OF SOUND ROCK (ft) 17.5
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Sound Rock = Top of Run 1

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	25.	30.	100	16		Rock type: schistose gneiss Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 40°, 23° Size range of pieces: fragments to 0.45' Hardness: hard Degree of weathering: slightly weathered
R-2	30.	35.	100	7		Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, sub-vertical, 30°, 28°, 70° Size range of pieces: fragments to 0.35' Hardness: moderately hard Degree of weathering: moderately weathered

Matt Bar
ENGINEERING GEOLOGY SUPERVISOR

8/17/2020
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PSN 12854 BORNUM 53 REGION 11 COUNTY BRONX PIN X731.64 PROJECT HUNTS POINT INTERSTATE ACCESS IMPROVEMENT	STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION GEOTECHNICAL ENGINEERING BUREAU ROCK CORE EVALUATION LOG	HOLE DN-B-53 *Page 1 of 1*

SURFACE ELEVATION (ft) 44.6
CORE SIZE & BARREL TYPE -
CORE EVALUATED BY KAS/KS

ELEVATION TOP OF ROCK (ft) 19.6
ELEVATION TOP OF SOUND ROCK (ft) 18.6
EVALUATION DATE 7/17/2020

Comments: Top of Rock = Top of Run 1
Top of Sound Rock = 1' below Top of Run 1

Run#	Depth (ft) From	Depth (ft) To	Core Recovery (%)	RQD (%)	Number of Pieces	ROCK TYPE / Descriptive Log: Type(s) of rock, color, grain size, texture, mineralogy, bedding, discontinuities, dip and density of discontinuities, size range of pieces, hardness, weathering, additional
R-1	25.	30.	**85.8**	**33**	13 pieces very fractured	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely fractured Fracture angles: sub-horizontal, 12°, 22°, 35°, 25°, 27°, 20°, 15° Size range of pieces: fragments to 0.45' Hardness: moderately hard Degree of weathering: slightly weathered
R-2	30.	35.	**100**	**90**	7 pieces, fractured	Rock type: schist Color: medium light grey to dark grey HCl reaction: none Bedding: thinly foliated Fracture density: intensely to moderately fractured Fracture angles: sub-horizontal, sub-vertical, 22°, 76°, 55° Size range of pieces: 0.2' to 1.1' Hardness: moderately hard Degree of weathering: slightly weathered

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