

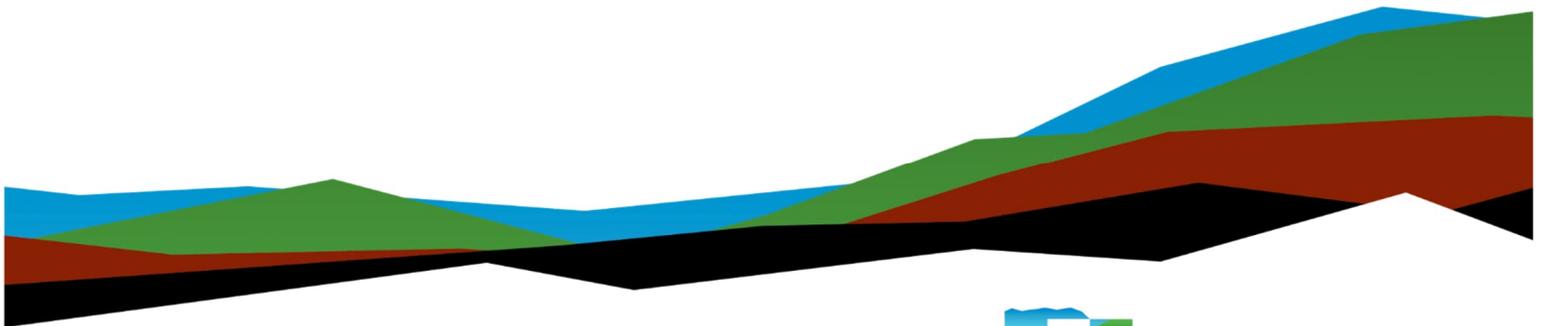
Project Clydesdale Design Level Geotech

Design Level Geotechnical Engineering Report

September 15, 2025 | Terracon Project No. 04255087

Prepared for:

Kimley-Horn & Associates Inc.
1437 S Boulder Ave
Tulsa, Oklahoma 74119



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September 15, 2025

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Attn: Randall, Devin
P: (918) 440-1553
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Re: Design Level Geotechnical Engineering Report
Project Clydesdale Design Level Geotech
E 76th Street N
Owasso, Oklahoma
Terracon Project No. 04255087

Dear Mr. Randall:

We have completed the scope of Design Level Geotechnical Engineering services for the above referenced project in general accordance with Terracon Proposal No. P04255087 dated May 19, 2025. This report presents the findings of the subsurface exploration and provides geotechnical recommendations concerning earthwork and the design and construction of foundations, floor slabs, and pavements for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,

Terracon

Certificate of Authorization #CA-4531, Expires 6/30/2027

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Field Engineer

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Attachments

- Exploration and Testing Procedures
- Site Location and Exploration Plans
- Exploration and Laboratory Results
- Subsurface Profile Fences
- Rock Core Photography Logs
- Supporting Information

Note: This report was originally delivered in a web-based format. **Blue Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the  Terracon logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

Refer to each individual Attachment for a listing of contents.

Introduction

This report presents the results of our subsurface exploration and Design Level Geotechnical Engineering services performed for the proposed data center buildings to be located off E 76th Street N in Owasso, Oklahoma. The purpose of these services was to provide information and geotechnical engineering recommendations relative to:

- Subsurface soil and rock conditions
- Groundwater conditions
- Seismic site classification per IBC
- Site preparation and earthwork
- Foundations
- Floor slabs
- Lateral earth pressure parameters
- Pavements

The geotechnical engineering Scope of Services for this project included the advancement of test borings, laboratory testing, engineering analysis, and preparation of this report.

Drawings showing the site and boring locations are shown on the [Site Location](#) and [Exploration Plan](#), respectively. The results of the laboratory testing performed on soil samples obtained from the site during our field exploration are included on the boring logs in the [Exploration Results](#) section.

Project Description

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	<p>Our understanding of the project is from conversations and email correspondence with the Client and the following provided documents:</p> <ul style="list-style-type: none">■ Prelim Mass Grading Exhibit – 20250418, dated 4/18/25■ 20250428-CLY Test Fit, dated 4/25/25

Item	Description
Project Description	<p>According to the Test Fit dated April 25, 2025, and a preliminary mass grading exhibit prepared by Kimley-Horn, we understand that the project will include:</p> <ul style="list-style-type: none"> ■ 3 data center buildings (labeled DC1A through DC3A) with footprints ranging between 890,000 and 1,200,000 square feet (sf) ■ 1 switching station with an area of about 400,000 sf ■ 1 temporary substation with an area of about 60,000 sf ■ 4 stormwater detention ponds with total areas ranging between 1.94 and 4.98 acres. We assume the ponds will have slopes of 3H: 1V or flatter. ■ 2 HUB buildings with footprints of 24,000 and 35,000 sf, respectively ■ 1 access drive building ■ Associated surface pavements/drive isles
Finished Floor Elevation	<p>Based on the mass grading plan provided, we have considered the following FFEs for each building:</p> <ul style="list-style-type: none"> ■ DC1A: 640' ■ DC2A: 662' ■ DC3A: 649' – 655' ■ HUB building (Phase 1): 657.5' ■ HUB building (Phase 3): 677' – 683' ■ Access drive building: 663'
Maximum Loads	<p>Anticipated maximum structural loads were provided in “Geotechnical Engineering Design Standard (North America) – v.1 – 2024-03-11” for the data center buildings and HUB buildings.</p> <p><u>Data Center Buildings:</u></p> <ul style="list-style-type: none"> ■ Column Loads: 500 kips ■ Floor Slab Load: 350 pounds per square foot (psf) ■ Wall Loads: 12.5 kips per linear foot (klf) <p><u>HUB and Access Drive Buildings:</u></p> <ul style="list-style-type: none"> ■ Column Loads: 200 kips ■ Floor Slab Load: 120 psf ■ Wall Loads: 3 klf

Item	Description
	<p>Anticipated maximum loads for substation structures were not provided. We estimated the following maximum structural loads based on previous similar projects:</p> <p><u>Substation and Switching Station:</u></p> <p>Bus and Switch Supports</p> <ul style="list-style-type: none">■ Axial: 1 – 6 kips■ Shear: 1 – 6 kips■ Moment: 10 – 120 kip-ft <p>Small Equipment Pads:</p> <ul style="list-style-type: none">■ Axial: 5 – 25 kips <p>Dead End Structures:</p> <ul style="list-style-type: none">■ Axial: 50 – 200 kips■ Shear: 10 – 30 kips■ Moment: 200 – 600 kip-ft <p>Control House and Transformers:</p> <ul style="list-style-type: none">■ Axial: 50 – 400 kips <p>We request that the design team review these estimated loads and provide us with updated loading information when it becomes available. Revisions to our recommendations may be necessary if loads will be significantly different than these assumptions.</p>

Item	Description
Grading/Slopes	<p>Based on the preliminary site grading plan provided by Kimley-Horn, we anticipate the following cuts and fills for each pad:</p> <p><u>DC1A</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 16' ■ Maximum Fill Thickness: 16' <p><u>DC2A</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 30' ■ Maximum Fill Thickness: 24' <p><u>DC3A</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 30' ■ Maximum Fill Thickness: 16' <p><u>North HUB Building</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 33' ■ Maximum Fill Thickness: 0' <p><u>South HUB Building</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 24' ■ Maximum Fill Thickness: 0' <p><u>Access Drive Building</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 16' ■ Maximum Fill Thickness: 0' <p><u>Switching Station</u></p> <ul style="list-style-type: none"> ■ Maximum Cut Depth: 8' ■ Maximum Fill Thickness: 30' <p>We understand that a final site grading plan will be completed after submittal of this report. We plan to update the cut depths and fill thicknesses on this table, along with the recommendations presented in this report, when final plans are provided for our review.</p>
Below-Grade Structures	<p>We anticipate some loading dock walls with a height on the order of 4 feet will be planned.</p>

Item	Description
Retaining Walls	<p>We understand that two retaining walls are planned at the site, both within the Phase 2 area. The first retaining wall, planned near the northeast corner of the DC2A building pad, is anticipated to be a maximum of 27 feet tall. The second retaining wall, planned near the southwest corner of the DC2A building pad, is anticipated to be a maximum of 18 feet tall.</p> <p>We further understand that the wall type(s) have not yet been determined. However we understand the walls may be mechanically stabilized earth (MSE) walls. Terracon's scope of services does not include engineering analyses (internal stability, external stability, or global) stability, design, or preparation of plans/specifications for MSE retaining walls.</p> <p>We understand the client may retain Terracon to perform global stability analyses of the MSE walls at a later time for an additional fee. These analyses (if authorized by the client) will be performed after submittal of this report and submitted as a separate document.</p>

Item	Description
Pavements	<p>From section 30.1 of the “Geotechnical Engineering Design Standard (North America) – v.1 – 2024-03-11”, ADT is based off maximum operating capacity of the facility.</p> <p>The maximum operating capacity of each building (DC1A through DC3A, provided by Kimley-Horn) is 200 MW, which correlates to an ADT of 1,000 vehicles/day for each building.</p> <p>Through discussion with Kimley-Horn, we also understand that a main spine road through the campus is planned that will receive traffic from all three buildings. We have designed this road for a capacity of 600 MW which correlates with an ADT of 2,670 vehicles/day.</p> <p>A breakdown of the anticipated vehicle types and descriptions is shown below:</p> <ul style="list-style-type: none"> ■ Class 2/3, 2-Axle 4-Tire: 95% ■ Class 6, 3-Axle Single Unit: 4% ■ Class 9, 5-Axle Tractor Semitrailer: 1% <p>The pavement design periods are 20 years for asphalt and 35 years for concrete.</p>

Terracon should be notified if any of the above information is inconsistent with the planned construction, especially the grading limits, as modifications to our recommendations may be necessary.

Site Conditions

The following description of site conditions is derived from our site visit in association with the field exploration.

Item	Description
Parcel Information	<p>The project is located between 76th and 86th Street North and between Yale Avenue and Sheridan Road in Tulsa County, Oklahoma.</p> <p>Latitude/Longitude (approximate): 36.2125, -95.3037</p> <p>See Site Location</p>

Item	Description
Existing Improvements	Undeveloped parcel. Ground cover consists of grass, dense brush, and dense trees.
Existing Topography	Based on topographical information available, the site has a gradual downward slope from west to east. Total elevation change across the site is approximately 100 feet.

Geotechnical Characterization

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. This characterization, termed GeoModel, forms the basis of our geotechnical calculations and evaluation of the site. Conditions observed at each exploration point are indicated on the individual logs. The individual logs can be found in the [Exploration Results](#) and the GeoModel can be found in the [Figures](#) attachment of this report.

As part of our analyses, we identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Native Soils	Lean clay, shaley lean clay, clayey sand, fat clay, shaley fat clay, silt, silty sand, sandy silt; varying shades of brown, gray, and red in color; very soft to hard; loose to dense
2	Bedrock	Sandstone: Highly weathered to slightly weathered; poorly cemented to well cemented Shale: Highly weathered to slightly weathered; soft to hard

The borings were advanced using hollow stem augers that allow for short term groundwater observations to be made while drilling. Groundwater was encountered in the following borings at the following depths/elevations (values in the table are rounded to the nearest ½ foot):

Boring ID	Shallowest Depth at Which Groundwater Was Encountered (feet) / Elevation
B-102	3.5 / 687.5
B-166	8.0 / 683.0
B-168	5.0 / 658.0
B-173	5.0 / 644.0
B-174	3.5 / 655.5
B-176	4.0 / 687.0
B-182	3.5 / 694.5
B-185	13.5 / 686.7
B-188	18.5 / 676.5
B-191	15.0 / 685.0
B-195	10.0 / 639.0
B-199	10.0 / 633.0
B-203	10.0 / 616.0
B-207	10.0 / 632.0
B-213	0.5 / 626.5
B-227	18.5 / 639.5

Groundwater conditions may change because of seasonal variations in rainfall, runoff, alterations to the site due to construction, and other conditions not apparent at the time of drilling. Therefore, groundwater conditions at other times may be different from the conditions encountered in our exploratory borings. The potential for water level fluctuations and perched water should be considered when developing design and construction plans and specifications for the project. Long-term groundwater monitoring was outside the scope of services for this project.

Laboratory Thermal Resistivity

Laboratory thermal resistivity testing was performed by Terracon on portions of selected bulk samples and thin-walled tube samples obtained during our exploration. The thermal resistivity testing was performed in general accordance with the IEEE standard. The dry-out curves for the bulk samples were developed from soils specimens compacted to approximately 90% of the standard Proctor maximum dry density (ASTM D698) at the standard Proctor optimum moisture content for recompacted bulk samples and at the in-situ density and moisture content for thin-walled tube samples. Samples were dried to 0% moisture to develop dry-out curves. The individual laboratory thermal resistivity dry-out curves are provided in the [Laboratory Test Results](#) section of this report and are summarized below.

Test Condition	Thermal Resistivity (°C-cm/W) ^{1, 2}				Number of Tests
	Parameter	Min.	Max.	Average	
Recompacted Bulk Samples					
90% Compaction	Wet	56	77	67	2
	Dry	107	128	118	
Shelby Tube Samples					
In-Situ	Wet	54	64	59	2
	Dry	97	144	121	

1. The “Dry” samples were tested at a moisture content of 0%.
2. The “Remolded Wet” samples were tested near the optimum moisture content for bulk samples and near the in-situ moisture content for tube samples.

Laboratory Corrosion Testing

The table below summarizes the results of laboratory pH, soluble sulfate, sulfides, soluble chloride, total salts, oxidation reduction potential (redox), and electrical resistivity testing performed on selected samples. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction. The actual test data from each sample is provided in the [Exploration Results](#) section.

Corrosivity Test Results Summary

Parameter	Number of Tests	Minimum	Maximum	Average
pH	9	5.4	8.9	7.3
Soluble Sulfate (mg/kg)	9	115	881	378
Sulfides (mg/kg)	9	Nil	Nil	Nil
Soluble Chloride (mg/kg)	9	24	185	75

Corrosivity Test Results Summary

Parameter	Number of Tests	Minimum	Maximum	Average
Redox (mV)	9	129	337	224
Total Dissolved Salts (mg/Kg)	9	107	1,460	577
Electrical Resistivity (Ω -cm)	9	1,100	16,000	4,322

Numerous sources are available to characterize corrosion potential to buried metals using the parameters above. Section 24 of the “Geotechnical Engineering Design Standard (North America) – v.1 – 2024-03-11” states the following soil or site conditions should be considered as indicative of potential deterioration or corrosion for steel:

- Soil Resistivity (Ω -cm)
 - 10,000 to 20,000: Mildly Corrosive
 - 5,000 to 10,000: Moderately Corrosive
 - 3,000 to 5,000: Corrosive
 - 1,000 to 3,000: Highly Corrosive
 - <1,000: Extremely Corrosive
- pH less than 4 or greater than 10
- Sulfates or chloride concentration greater than 500 ppm (mg/kg)

Based on the corrosivity testing results, the site conditions may be considered medium to high for potential corrosion of buried steel elements. Portions of the site that are unexplored may exhibit higher corrosive properties. These test results are provided to assist in determining the type and degree of corrosion protection that may be required. We recommend a NACE certified corrosion professional be retained to analyze the need for corrosion protection and to design appropriate protective measures, if required.

Imported fill materials may have significantly different properties than the site materials noted above and should be evaluated if expected to be in contact with concrete and/or metals used for construction.

Seismic Site Class

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard

penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the subsurface conditions encountered at the site, Seismic Site Classification of C can be considered for the project. Subsurface explorations at this site were extended to a maximum depth of 40 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth.

Recommended seismic design values are included in the following table.

Parameter	Design Value
PGA (g)	0.078
S_s (g)	0.17
S_1 (g)	0.08
S_{MS} (g)	0.18
S_{M1} (g)	0.11
F_{pga}	1.2
F_a	1.2
F_v	1.6
A_s (g)	0.075
S_{DS} (g)	0.12
S_{D1} (g)	0.073
Seismic Zone	1
Seismic Design Category	B

Geotechnical Overview

The site appears suitable for the proposed construction based upon geotechnical conditions encountered in the test borings, provided that the recommendations provided in this report are implemented in the design and construction phases of this project.

Based on the conditions encountered and estimated load-settlement relationships, the proposed data center buildings can be supported on a combination of shallow footings and drilled piers, with both foundation types bearing in the bedrock (shale and/or sandstone) encountered at the site. To reduce the potential for excessive differential

settlement, foundations for the data center buildings should bear only on shale or sandstone bedrock (not on native soil or newly placed fill). The access drive building and HUB buildings may be supported on conventional continuous or spread footings bearing in the native lean clay or clayey sand soil, or in shale or sandstone bedrock. Within the switching station and temporary substation, small equipment pads can be supported on shallow footings bearing in either native soils, shale bedrock, or sandstone bedrock. Transformers may be supported on mat foundations bearing in native soils, shale bedrock, or sandstone bedrock. Small equipment, bus/switch supports, dead end structures, control houses, transmission poles, and transformers may all be supported on drilled piers bearing in the shale or sandstone bedrock.

Based on the grading plan provided and conversations with the client, we understand cuts of up to 25 feet and fills of up to 30 feet will be required to construct the building pad and pavements. Cuts will extend into shale and sandstone bedrock, refer to the [Excavation](#) section below for additional details. Based on our analysis, the native soils that overly bedrock have the potential to consolidate on the order of 2 to 4 inches for phase 1 of the project and on the order of 1 to 3 inches for phases 2 and 3, under the weight of the new fill. In addition, the fill induced settlement is not anticipated to be uniform as the depth of fill across the site is not uniform. In our opinion, the new fill required to develop the site should be placed as early in the construction schedule as possible and the settlement should be monitored as described in the [Fill Induced Settlement Considerations](#) section. After the existing soils have consolidated sufficiently, construction of foundations, floor slabs, pavements, and other settlement sensitive improvements can proceed in the normal manner.

We understand that, in lieu of importing suitable lower plasticity cohesive materials, the use of limestone screenings as low plasticity fill below the building floor slabs has been suggested. Although limestone screenings would meet the criteria of a low-volume-change material, we do not recommend the use of this material as low plasticity fill below the building floor slabs. This material often becomes very soft and unstable when saturated and can be easily disturbed by construction traffic.

The recommendations contained in this report are based upon the results of field and laboratory testing (presented in the [Exploration Results](#)), engineering analyses, and our current understanding of the proposed project. The [General Comments](#) section provides an understanding of the report limitations.

Earthwork

Earthwork is anticipated to include clearing and grubbing, excavations, and engineered fill placement. The following sections provide recommendations for use in the preparation of specifications for the work. Recommendations include critical quality

criteria, as necessary, to render the site in the state considered in our geotechnical engineering evaluation for foundations, floor slabs, and pavements.

Site Preparation

Prior to placing fill, existing vegetation, topsoil, root mats, and any loose, soft, or otherwise unsuitable soils should be removed. Complete stripping of the topsoil should be performed in the proposed building and parking/driveway areas. Organic soils removed during site preparation should not be used as fill beneath the proposed new building and pavement areas.

Mature trees are located within or near the footprint of some of the proposed buildings, which will require removal at the onset of construction. Tree root systems can remove substantial moisture from surrounding soils. Where trees are removed, the full root ball and all associated dry and desiccated soils should be removed. The soil materials which contain less than 5 percent organics can be reused as engineered fill provided the material is moisture conditioned and properly compacted.

The subgrade should be proofrolled with an adequately loaded vehicle such as a fully-loaded tandem-axle dump truck. The proofrolling should be observed by a representative of the Geotechnical Engineer. Areas excessively deflecting under the proofroll should be delineated and subsequently addressed by the Geotechnical Engineer. Such areas should be improved by scarification/compaction or by removal and replacement with engineered fill. Excessively wet or dry material should either be removed or moisture conditioned and recompacted.

Where fill is placed on existing slopes steeper than 5H:1V, benches should be cut into the existing slopes prior to fill placement. The benches should have a minimum vertical face height of 1 foot and a maximum vertical face height of 3 feet and should be cut wide enough to accommodate the compaction equipment. This benching will help provide a positive bond between the fill and natural soils and reduce the possibility of failure along the fill/natural soil interface.

Although no evidence of fill or underground facilities (such as septic tanks, cesspools, basements, and utilities) was observed during the exploration and site reconnaissance, such features could be encountered during construction. If unexpected fills or underground facilities are encountered, such features should be removed, and the excavation thoroughly cleaned prior to backfill placement and/or construction.

Excavation

We anticipate that shallow excavations made in native soils or new engineered fill for the proposed construction can be accomplished with conventional earthmoving equipment.

The bottom of excavations should be thoroughly cleaned of loose soils and disturbed materials prior to backfill placement and/or construction.

Shale and sandstone bedrock will be encountered in excavations, especially where large excavations occur to accommodate grading. Our opinion on the rippability of shale and sandstone bedrock anticipated to be encountered during site grading is enclosed in our rippability memo dated June 12th, 2025, and is included below in the [Rippability](#) section of this report. Excavation of harder bedrock (i.e., shale or sandstone bedrock with SPT blow counts greater than 50 for 12 inches of sampler penetration, and/or with shear wave velocities over 8,500 ft/s) will likely require the use of jackhammers, rock splitters, pneumatic breakers, or blasting. Excavation of rock in confined areas (such as trenches) is usually difficult, even above the level of auger refusal.

For the materials anticipated to be encountered in excavations, we recommend the following bulking/shrinkage factors for use in estimating excavation quantities. These values are provided relative to the in-situ (bank) density of the native soils.

On-Site Material	Compacted vs. In Situ Density
Clay	-10%
Silt	-15%
Sand	-10%
Sandstone/Shale	+30 to 40%

Rippability

Terracon performed ten seismic refraction surveys at eight select locations throughout the site. The seismic refraction surveys were performed using the p-wave refraction method. At locations SR-1 and SR-3, two lines were run in the same area perpendicular to each other (north-south and east-west).

Ripper performance charts published in the Caterpillar Performance Handbook correlate seismic velocity values for various rock types with tractor size. Our bedrock rippability assessment was performed based on ripper performance charts published in the Caterpillar Performance Handbook (50th Edition, 2022). According to the Caterpillar Performance Handbook, sandstone and shale bedrock with seismic velocities of up to about 6,300 ft/s are generally expected to be rippable using a D8R/T or D9R/T dozer equipped with a multi shank or single shank ripper. The Caterpillar Performance Handbook indicates that sandstone and shale bedrock with seismic velocities of up to about 8,500 ft/s are generally expected to be marginally rippable.

ODOT 2019 Construction Specifications considers that material can be classified as rock and considered as rock excavation when the rock mass has a seismic velocity of 7,000 ft/s or greater or that the rock mass cannot be loosened or broken down by ripping with a bulldozer with a minimum net flywheel power rating of 303 hp.

A summary of the lines we tested and the approximate ranges of bedrock rippability based on seismic velocities at the mid-point of the line and the use of a D8R/T or D9R/T equipped with a multi shank or single shank ripper is provided in the following table. Please see the attached velocity models in [Exploration Results](#) with the approximate boundaries for more detail.

Line	Proposed Cut Areas	Closest Proximity Boring	Rippable ¹	Marginally Rippable ^{1,2}	ODOT Rock Excavation Threshold ¹
SR-1EW	Building 3 Area	B-228	10 to 15 feet BGS	25 to 30 feet BGS	15 to 20 feet BGS
SR-1NS	Building 3 Area	B-228	10 to 20 feet BGS	25 to 30 feet BGS	15 to 25 feet BGS
SR-2	Building 3 Area	B-126	15 to 20 feet BGS	20 to 30 feet BGS	15 to 25 feet BGS
SR-3EW	Building 2 Area	B-176	10 to 15 feet BGS	20 to 30 feet BGS	15 to 20 feet BGS
SR-3NS	Building 2 Area	B-176	15 to 20 feet BGS	30 to 35 feet BGS	20 to 25 feet BGS
SR-4	Building 1 Area	B-197	15 to 25 feet BGS	35 to 40 feet BGS	20 to 30 feet BGS
SR-5	Building 2 Area	B-35	5 to 15 feet BGS	25 to 30 feet BGS	15 to 20 feet BGS
SR-6	Building 1 Area	B-61	10 to 20 feet BGS	25 to 30 feet BGS	15 to 25 feet BGS
SR-7	Building 2 Area	B-55	20 to 30 feet BGS	30 to 40 feet BGS	25 to 35 feet BGS
SR-8	Building 1 Area	B-63	25 to 35 feet BGS	35 to 45 feet BGS	30 to 35 feet BGS

1. Rippability estimates in the table are measured at the center of the array, please see Attachments P-Wave Velocity Profiles for full details
2. Rock beneath this threshold may not be rippable

The bedrock rippability assessment in the previous table, which is based on shear wave velocity, was performed based on ripper performance charts published in the Caterpillar Performance Handbook (50th Edition, 2022). It must be realized that these are indicators only. The contractor bidding and performing the earthwork at this site should evaluate and determine for themselves the actual rippability of the rock and the excavation methods that will be required for this project.

Previous experience on projects in Oklahoma using shear wave velocity as a guide to rippability of rock formations has proven reliable to our knowledge. However, a more conservative approach to establishing the depth to rippable rock might utilize engineering judgement based on a combination of seismic shear wave velocities, core log analysis and previous experience in the same or similar formation.

The rock formation is dependent upon a number of variables related to the rock mass including, but not limited to, discontinuity (joints/fractures/bedding) spacing and orientation, rock strength, angle of the equipment relative to the orientation of discontinuities, etc. Favorable conditions for rippability include frequent planes of weakness or discontinuities such as joints, fractures or laminations, weathering, moisture content, stratification, brittleness, and “lower” shear strength. Unfavorable conditions for rippability include massive rock with fewer planes of weakness, crystalline rocks, non-brittle energy-absorbing rock matrix, and “higher” shear strength. Other variables relative to rippability include the size of the equipment used, the skill of the operator, inclusions or “hard spots” in the rock, the condition of the equipment used, and the orientation of any planes of weakness such as fractures or layer bedding.

The table below provides a guidance to the design engineer for elevations below:

Line	Proposed Cut Areas	Closest Proximity Boring	Approximate Hard Rock Excavation Elev. (feet) for Construction Earthwork Quantity Purposes ¹
SR-1EW	Building 3 Area	B-228	Below 687
SR-1NS	Building 3 Area	B-228	Below 690
SR-2	Building 3 Area	B-126	Below 670
SR-3EW	Building 2 Area	B-176	Below 693
SR-3NS	Building 2 Area	B-176	Below 690
SR-4	Building 1 Area	B-197	Below 685
SR-5	Building 2 Area	B-35	Below 690
SR-6	Building 1 Area	B-61	Below 685
SR-7	Building 2 Area	B-55	Below 625
SR-8	Building 1 Area	B-63	Below 640

1. According to the Caterpillar Performance Handbook, P-wave velocities of 3,000 ft/s or greater may be considered shale or sandstone bedrock

Fill Induced Settlement Considerations

As previously described, fill placement of up to 30 feet will cause stress increases extending into the underlying soils, which will consolidate and settle under the new loads. Our analysis indicates the planned new fill thicknesses could result in settlement on the order of 2 to 4 inches for phase 1 of the project, and 1 to 3 inches for phases 2

and 3. Settlement of this magnitude may result in adverse shallow foundation, floor slab, pavement, and utility performance.

We recommend completing the grading where deep fills are planned early in the construction process and delaying construction of foundations, floor slabs, pavements, and other settlement sensitive improvements until the rate of settlement decreases to acceptable levels as determined by settlement monitoring. Settlement monitoring should be performed using a minimum of four settlement monuments for each phase (twelve total) installed in the areas of deepest fill around the site. The monuments should be installed as recommended by a Terracon representative. A common method of constructing a settlement monument is to auger a borehole at least 2 feet deep into the final subgrade (i.e., after fill placement is complete), set an approximately 5-foot-long steel post or piece of rebar into the hole, and set the pole in-place by backfilling the hole around the post with concrete. Once installed in deep fill areas, settlement monuments should be measured to the nearest hundredth of a foot at least twice weekly, and settlement readings should be forwarded to Terracon for evaluation. Based on our analysis and experience, we would anticipate on the order of 15 to 30 days may be required to achieve the desired settlement. This estimated delay is based on the proposed construction, the soil conditions observed, and the test results performed. However, other factors not tested at the time of this exploration may alter the time for the settlement to occur, such as the effective drainage path and permeability of the native soils, which could shorten or extend the delay. After the existing soils have consolidated as determined by survey, construction of foundations, floor slabs, pavements, and other settlement sensitive improvements can proceed in the normal manner.

If planned fill thicknesses beneath the building pad are limited to 12 feet or less, the settlement period may be waived and construction of foundations, floor slabs, and pavements may be completed immediately after placement of fill.

In our experience, the typical methods to reduce the delay due to settlement from placement of new fill would include installation of wick drains, installation of a ground improvement system (aggregate piers, stone columns, or rigid inclusions), and/or placement of temporary additional surcharge fill above planned final grade. These methods are typically only implemented when excessive delays are likely (on the order of 90+ days). Since implementation of any of these methods would likely require 2 to 3 weeks to implement, it is our opinion that they may not be economical or meaningfully improve the construction timeline for this project.

Soil Stabilization

Due to the low strength soils encountered in some of our borings, soil stabilization may be needed in areas of the site. Methods of subgrade improvement, as described below, could include scarification, moisture conditioning and recompaction, removal of unstable

materials and replacement with granular fill (with or without geosynthetics), and chemical stabilization. The appropriate method of improvement, if required, would be dependent on factors such as schedule, weather, the size of area to be stabilized, and the nature of the instability. More detailed recommendations can be provided during construction as the need for subgrade stabilization occurs. Performing site grading operations during warm seasons and dry periods would help reduce the amount of subgrade stabilization required.

If the exposed subgrade is unstable during proofrolling operations, it could be stabilized using one of the methods outlined below.

- Scarification and Recomaction - It may be feasible to scarify, dry, and recompact the exposed soils. The success of this procedure would depend primarily upon favorable weather and sufficient time to dry the soils. Stable subgrades likely would not be achievable if the thickness of the unstable soil is greater than about 1 foot, if the unstable soil is at or near groundwater levels, or if construction is performed during a period of wet or cool weather when drying is difficult.
- Crushed Stone - The use of crushed stone or crushed gravel is a common procedure to improve subgrade stability. Typical undercut depths would be expected to range from about 12 to 24 inches below finished subgrade elevation. The use of high modulus geosynthetics (i.e., geotextile or geogrid) could also be considered after underground work such as utility construction is completed. Prior to placing the geosynthetics, we recommend that all below grade construction, such as utility line installation, be completed to avoid damaging the geosynthetic. Equipment should not be operated above the geosynthetic until one full lift of crushed stone fill is placed above it. The maximum particle size of granular material placed over a geosynthetic should not exceed 1½ inches.
- Chemical Modification - Incorporation of Portland cement could be considered for improving unstable soils. Chemical modification should be performed by a pre-qualified contractor having experience with successfully stabilizing subgrades in the project area on similar sized projects with similar soil conditions. The hazards of chemicals blowing across the site or onto adjacent property should also be considered. Additional testing would be needed to develop specific recommendations to improve subgrade stability by blending chemicals with the site soils. Additional testing could include, but not be limited to, determining the most suitable stabilizing agent, the optimum amounts required, and the presence and concentration of sulfates in the soil.

Further evaluation of the need and recommendations for subgrade stabilization can be provided during construction as the geotechnical conditions are exposed.

Fill Material Types

Fill required to achieve design grades below structures and pavements, or within constructed slopes, should be classified as engineered fill. All materials incorporated in engineered fill sections must be free of organic matter and debris. Fill materials should not be frozen and should not be placed on a frozen subgrade. A sample of each material type should be tested prior to being used on the site. Below are the material types that will be encountered and may be utilized as fill as well as placement and compaction recommendations for each material type.

Sandstone Fill is defined as durable sandstone (sandstone that does not break down with added moisture) fragments, compacted to produce inter-particle contact within the sandstone fragment matrix. The sandstone fill should contain a sufficient amount of smaller particle sizes to fill voids between fragments. The maximum particle size of rock fragments within sandstone fill shall be 2 feet in dimension.

Sandstone fill should be used in deeper fills (at least 5 feet below bottom-of-floor-slab level in building areas, and at least 2 feet below bottom-of-pavement section level in pavement areas). To the extent practical, sandstone fill should not be placed in areas where utility trenches will be excavated. Sandstone fill should be placed in loose lifts, equal to or less than the maximum particle size being placed (2 feet, maximum dimension). Placement and compaction should be closely monitored on a full-time basis by a representative of Terracon, since compaction control testing using moisture-density gauges does not produce consistent data on rock fills. Each lift of sandstone fill shall be proofrolled prior to placement of the next subsequent lift to verify that proper compaction has been achieved. The moisture content should be sufficient to achieve compaction without pumping when proofrolled.

Soil/Sandstone Mixture fill is defined as a mixture of durable sandstone, soil, and processed clay-like shale with at least 20% of the material finer than 1 inch, but no more than 80% finer than 1 inch. The maximum particle size of sandstone fragments in the mixture shall be 2 feet in dimension. The soil in the soil/sandstone mixture should not consist of topsoil and should contain no more than 10% organics.

Soil/Sandstone Mixtures should be used in deeper fills (as described above). Soil/Sandstone Mixtures should be placed in loose lifts, equal to or less than the maximum particle size being placed (2 feet, maximum dimension). Placement and compaction should be closely monitored on a full-time basis by a representative of Terracon, since compaction control testing using moisture-density gauges does not produce consistent data on mixed rock and soil fills. Each lift of soil/sandstone mixture fill shall be proofrolled prior to placement of the next subsequent lift to verify that proper compaction has been achieved. The moisture content should be sufficient to achieve compaction without pumping when proofrolled.

Shale Fill: Shale fill can be classified as clay-like shale or rock-like shale. Clay like shale is defined as having similar physical characteristics as a clay soil, in that it can be easily molded and reshaped by hand such as the shaley lean and fat clays encountered in our borings. Clay like shale that can be moisture conditioned and manipulated so that it has the consistency of a clay soil, it should be placed in a manner similar to clay soils.

Harder (rock-like) shale will need to be processed into a clay-like shale before it can be used as fill. Substantial pulverization and moisture conditioning will be required to process harder, rock-like shale into a clay-like shale. Processing of rock-like shale normally requires a number of passes by heavy, tracked construction equipment to break the shale down to a material having a maximum 6-inch particle size and containing sufficient fines to completely fill void spaces between the larger particles. A substantial amount of water must be incorporated into the rock-like shale during fill placement to aid in breaking down the shale into a clay-like consistency. Shale can be considered “clay-like” (and suitable for use as shale fill) once it has been processed to a maximum particle size of 6 inches with at least 90% of the material finer than 3 inches and moisture conditioned to a soil-like consistency.

Shale fill should be used in deeper fills (as described above). Shale fill should be placed in maximum 9-inch thick, loose lifts. Placement and compaction should be closely monitored on a full-time basis by a representative of Terracon, since compaction control testing using moisture-density gauges does not produce consistent data on shale fills. Shale fill should be compacted to at least 95% of the standard Proctor dry density or should pass a proofroll. The moisture content should be sufficient to achieve compaction without pumping when proofrolled.

Soil fill is defined as any non-organic material (i.e., less than 5% organic content) with at least 80% of the material finer than 1 inch. Soil is commonly used as fill in this locale, but not all soils are suitable. Our professional opinions concerning suitability of fill materials are presented in the following table.

Soil Type ¹	USCS Classification	Acceptable Location for Placement
Imported Low Volume Change Materials ²	CL, SC, GC, GM LL ≤ 45 & PI ≤ 20	All locations and elevations, except where free draining material is required
On-Site Soils ²	CL, SC, SM	All locations and elevation, except where free draining material is required

Soil Type ¹	USCS Classification	Acceptable Location for Placement
	CL-ML, CH, ML	Pavement areas and greater than 2 feet below the bottom of floor slabs
Granular ^{2,3}	GW/GM	Subbase beneath floor slabs and pavements

1. Structural and general fill should consist of approved materials free of organic matter and debris. Frozen material should not be used, and fill should not be placed on a frozen subgrade.
2. A sample of each material type should be submitted to the Geotechnical Engineer for evaluation prior to use on this site.
3. ODOT Class "A" aggregate base course or similar

We understand that, in lieu of importing suitable lower plasticity cohesive materials or stabilizing the on-site soils, the use of limestone screenings as low plasticity fill below the building floor slab has been suggested. Although limestone screenings would meet the criteria of a low-volume-change material, we do not recommend the use of this material as low plasticity fill below the building floor slab. This material often becomes very soft and unstable when saturated and can be disturbed by construction traffic.

However, if limestone screenings are used as fill beneath the building pad, we recommend that the exposed subgrade be evaluated immediately prior to placement of the granular leveling course and construction of the building floor slabs. The building subgrade should be proofrolled to assess its stability. Proofrolling should be accomplished using a fully loaded (minimum 25 ton), tandem-axle dump truck or similar equipment providing an equivalent subgrade loading. Soft or unstable areas identified by the proofrolling operation should be reworked prior to placement of the granular leveling course and construction of the floor slab. If suitable stability cannot be achieved by reworking unsuitable areas, we recommend that areas of soft, saturated limestone screenings be undercut and brought up to grade with suitable material.

Fill Placement and Compaction Requirements

Engineered fill should meet the following compaction requirements.

Item	Description
Maximum Lift Thickness	9 inches or less in loose thickness when heavy, self-propelled compaction equipment is used 4 to 6 inches in loose thickness when hand-guided equipment (i.e. jumping jack or plate compactor) is used
Minimum Compaction Requirements for Soil Fill ^{1,2}	<u>Fill placed within 5 feet of finished grade:</u> At least 95% of the standard Proctor maximum dry density <u>Fill placed deeper than 5 feet below finished grade:</u> At least 98% of the standard Proctor maximum dry density <u>ODOT Type "A" Aggregate Base Course:</u> At least 98% of the standard Proctor maximum dry density
Water Content Range ¹	<u>Cohesive:</u> <ul style="list-style-type: none"> ■ Low Plasticity (PI ≤ 20): -2% to +2% of optimum ■ Highly Plasticity (PI > 20): 0% to +4% of optimum <u>Granular:</u> Workable moisture content

1. Maximum density and optimum water content as determined by the standard Proctor test (ASTM D 698)
2. If the granular material is a coarse sand or gravel, or of a uniform size, or has a low fines content, compaction comparison to relative density may be more appropriate. In this case, granular materials should be compacted to at least 70% relative density (ASTM D 4253 and D 4254). Materials not amenable to density testing should be placed and compacted to a stable condition observed by the Geotechnical Engineer or representative.

Utility Trench Backfill

Any soft or unsuitable materials encountered at the bottom of utility trench excavations should be removed and replaced with structural fill or bedding material in accordance with public works specifications for the utility to be supported. This recommendation is particularly applicable to utility work requiring grade control and/or in areas where subsequent grade raising could cause settlement in the subgrade supporting the utility. Trench excavation should not be conducted below a downward 1:1 projection from existing foundations without engineering review of shoring requirements and geotechnical observation during construction.

Trench backfill should be mechanically placed and compacted as discussed earlier in this report. Compaction of initial lifts should be accomplished with hand-operated tampers or other lightweight compactors. Where trenches are placed beneath slabs or footings, the backfill should satisfy the gradation and expansion index requirements of engineered fill discussed in this report. Flooding or jetting for placement and compaction of backfill is not recommended.

Undground utilities buried more than 24 inches below final grade are not expected to experience uplift/heave due to seasonal moisture fluctuations of on-site clay soils or newly placed clay fill. If the owner and/or designer are concerned about the effect of potential seasonal shrink-swell movements of clay soils on utilities buried shallower than 24 inches below final grade, utility trench bedding and backfill material meeting the LVC criteria discussed in the Fill Material Types section should be used to a depth of at least 2 feet below finished grade.

Utility trenches are a common source of water infiltration and migration. Utility trenches penetrating beneath the building should be effectively sealed to restrict water intrusion and flow through the trenches, which could migrate below the building. The trench should provide an effective trench plug that extends at least 5 feet from the face of the building exterior. The plug material should consist of cementitious flowable fill or low permeability clay. The trench plug material should be placed to surround the utility line. If used, the clay trench plug material should be placed and compacted to comply with the water content and compaction recommendations for structural fill stated previously in this report.

Grading and Drainage

The site should be graded to provide effective drainage away from the building during and after construction, and these conditions should be maintained throughout the life of the structure. Accumulation of water adjacent to the structure could contribute to significant moisture increases in the subgrade soils and subsequent softening/settlement or expansion/heave, which could result in soil movements greater than those discussed in this report. Greater movements can result in unacceptable differential floor slab and/or foundation movements, cracked slabs and walls, and roof leaks.

After building construction and landscaping have been completed, final grades should be verified to document effective drainage has been achieved. Grades around the structure should also be periodically checked and adjusted, as necessary, as part of the structure's maintenance program. Where paving or flatwork abuts the structure, a maintenance program should be established to effectively seal and maintain joints and limit surface water infiltration.

Planters located within 10 feet of the building should be self-contained to prevent water accessing the building subgrade soils. Trees or other vegetation whose root systems

have the ability to remove excessive moisture from the subgrade and foundation soils should not be planted next to structures. Trees and shrubbery should be kept away from the exterior edges of the foundation element a distance of least equal 1.5 times their expected mature height. Sprinkler mains and spray heads should be located a minimum of 5 feet away from the building lines. Roof runoff should be collected in drains or gutters. Roof drains and downspouts should be discharged onto pavements which slope away from the buildings or downspouts should be extended a minimum of 10 feet away from the structure.

Earthwork Construction Considerations

Care should be taken to avoid disturbance of prepared subgrades. Unstable subgrade conditions can develop during general construction operations, particularly if the soils are wetted or subjected to repetitive construction traffic. If unstable subgrade conditions develop, stabilization measures will need to be employed. Construction traffic over the completed subgrade should be avoided to the extent practical. If the subgrade becomes frozen, desiccated, saturated, or disturbed, the affected materials should be removed or these materials should be scarified, moisture conditioned, and compacted before floor slab construction.

Based on conditions encountered in the borings, significant seepage is generally not expected in excavations for this project (e.g., for foundation construction and utility installation). If seepage is encountered in excavations during construction, the contractor is responsible for designing, implementing, and maintaining appropriate dewatering methods to control seepage and facilitate construction. In our experience, dewatering of excavations in clay soils can typically be accomplished using sump pits and pumps. If seepage occurs where sand seams or sand layers are encountered in excavations, a more extensive dewatering system may be required.

As a minimum, excavations should be performed in accordance with OSHA 29 CFR, Part 1926, Subpart P, "Excavations" and its appendices, and in accordance with any applicable local, state, and federal safety regulations. The contractor should be aware that slope height, slope inclination, and excavation depth should in no instance exceed those specified by these safety regulations. Flatter slopes than those dictated by these regulations may be required depending upon the soil conditions encountered and other external factors. These regulations are strictly enforced and if they are not followed, the owner, contractor, and/or earthwork and utility subcontractor could be liable and subject to substantial penalties. Under no circumstances should the information provided in this report be interpreted to mean that Terracon is responsible for construction site safety or the contractor's activities. Construction site safety is the sole responsibility of the contractor who shall also be solely responsible for the means, methods, and sequencing of the construction operations.

Construction Observation and Testing

The earthwork efforts should be observed by a representative of the Geotechnical Engineer. Observation should include documentation of adequate removal of surficial materials (vegetation, topsoil, root mats, etc.), as well as proofrolling and mitigation of unsuitable areas delineated by the proofroll.

Each lift of compacted fill should be tested, evaluated, and reworked, as necessary, as recommended by the Geotechnical Engineer before placing additional lifts. Each lift of fill should be tested for density and water content at a frequency of at least one test for every 2,500 square feet of compacted fill in the building areas and 5,000 square feet in pavement areas. Where not specified by local ordinance, one density and water content test should be performed for every 100 linear feet of compacted utility trench backfill and at least one test performed for every 12 vertical inches of compacted backfill.

In areas of foundation excavations, the bearing subgrade should be evaluated by the Geotechnical Engineer. If unanticipated conditions are observed, the Geotechnical Engineer should be contacted to discuss mitigation options.

In addition to the documentation of the essential parameters necessary for construction, the continuation of the Geotechnical Engineer into the construction phase of the project provides the continuity to maintain the Geotechnical Engineer's evaluation of subsurface conditions, including assessing variations and associated design changes.

Data Center Building Foundations

In our opinion, a combination of bedrock-bearing spread footings and bedrock-bearing drilled piers can be used to support the proposed data center buildings. To reduce the potential for differential movements between foundations supported on dissimilar bearing materials, in our opinion, irrespective of foundation type, all foundations should bear on bedrock consisting of competent shale and/or sandstone. Footings for the data center buildings should not be founded on native soils or on new fill. Where shale or sandstone is encountered at relatively shallow depths (i.e., less than about 5 feet below planned final grade), footings could bear directly on the shale or sandstone bedrock. Where shale or sandstone bedrock is encountered at greater depths, drilled pier foundations (also referred to as drilled shafts) can be used to support individual columns and a driller pier/grade beam system can be used to support walls. Design recommendations for shallow and deep foundations to support the proposed building are presented below.

Shallow Foundation Design Recommendations – Western Portions of DC1A and DC2A, Northern Portion of DC3A

Item	Description
Maximum Net Allowable Bearing Pressure ^{1, 2}	5,000 psf for footings bearing on suitable shale or sandstone bedrock
Minimum Foundation Dimensions	Isolated footings: 30 inches Continuous footings: 18 inches
Minimum Embedment below Finished Grade ³	24 inches
Estimated Total Settlement from Structural Loads ⁴	About ½ inch
Estimated Differential Settlement ⁴	About 1/3 to 2/3 of total settlement

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation. This pressure assumes that any lower strength soils or other unsuitable materials, if encountered, will be undercut to the top of suitable shale or sandstone bedrock. Foundation concrete could extend to the suitable bedrock, or lean concrete could be placed in the over-excavation to re-establish design foundation bearing elevations.
2. Values provided are for maximum loads noted in [Project Description](#). Additional geotechnical evaluation and consultation will be necessary if higher loads are anticipated.
3. Embedment necessary to minimize the effects of frost and/or seasonal water content variations. For sloping ground, maintain depth below the lowest adjacent exterior grade within 5 horizontal feet of the structure.
4. Foundation settlement will depend upon the variations within the subsurface profile, the structural loading conditions, the embedment depth of footings, and the quality of the earthwork operations and footing construction. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 ft.

Shallow Foundation Construction Considerations – Western Portions of DC1A and DC2A, Northern Portion of DC3A

The rock at the base of each footing excavation should be observed and tested by Terracon. The excavation should be probed or otherwise sampled at each isolated spread footing and at regular intervals along continuous footings. The base of all foundation excavations should be free of water and loose rock or soil-like materials before placing reinforcing steel and concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. If bearing materials become disturbed, the affected material should be removed before placing concrete. If the excavations must

remain open for an extended period of time, placement of a lean concrete mud mat over the bearing surface should be considered.

Footings should bear directly on tested and approved bedrock or on lean concrete that extends to approved bedrock materials. If soils or other unsuitable materials are encountered at design foundation bearing depth, the footing excavations should be deepened to suitable bedrock bearing materials.

Drilled Pier Axial Design Recommendations – Central and Eastern Portions of DC1A and DC2A, Southern Portion of DC3A

Item	Description
Bearing Material	Competent shale or sandstone bedrock
Minimum Embedment	2 feet into competent bedrock
Net Allowable Bearing Pressure ¹	20,000 psf
Maximum Allowable Skin Friction ²	2,500 psf
Minimum Shaft Diameter ³	24 inches
Minimum Grade Beam Embedment Depth Below Finished Grade	24 inches
Estimated Total Settlement	About ½ inch
Estimated Differential Settlement	Less than about 2/3 of total settlement
Coefficient of Friction between Fill/Native Soil and Drilled Pier ⁴	0.3

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the drilled pier base elevation. This pressure assumes that the piers will be founded in suitable shale or sandstone bedrock and have a length to diameter ratio (L/D) of at least 3.
2. Use skin friction for the portion of the drilled pier that penetrates at least two feet into competent shale or sandstone bedrock.
3. Assuming that enough steel reinforcement is used to provide adequate structural integrity.
4. Value provided for evaluation of drag load in deeper fill areas (in case the recommended settlement delay time is not implemented). Further discussion is provided in the following paragraph.

The following parameters do not consider drag load created by the downward skin friction of soils settling in deeper fill areas (fill areas over 12 feet) due to our recommendations regarding settlement of new fill. If fill is placed, compacted, and allowed to settle as recommended in [Fill Placement and Compaction Requirements](#) and [Fill Induced Settlement Considerations](#), drag load will not be imposed on the piers. If pier construction is started while new fill over 12 feet is still in the process of settling, drag load will need to be accounted for by the structural engineer when designing the piers to ensure that the piers' structural capacity can withstand the negative skin friction created by the settlement of new fill. A coefficient of friction value between soil (fill and native soils) and the drilled piers is provided in the preceding table.

Drilled Pier Lateral Design Recommendations – Central and Eastern Portions of DC1A and DC2A

The following table lists input values for use in LPILE analyses. Modern versions of LPILE provide estimated default values of k_h and E_{50} based on strength and are recommended for the project. Since deflection or a service limit criterion will most likely control lateral capacity design, no safety/resistance factor is included with the parameters.

Stratigraphy ¹		LPILE Soil Model	S_u (psf) ²	γ' (pcf) ²	E_{50}	K (pci)	
Depth ³ (ft)	Material					Static	Cyclic
0 to 24	New Engineered Fill	Stiff Clay w/o Free Water	1,000	120	Use Default Value		
24 to 44	Native Lean Clay	Stiff Clay w/o Free Water	1,000	120	Use Default Value		
44 and below	Bedrock (Shale or Sandstone)	Weak Rock	500 psi ⁴	145	N/A		

1. See Subsurface Profile in [Geotechnical Characterization](#) for more details on Stratigraphy.
2. Definition of Terms:
 S_u : Undrained shear strength
 γ' : Effective unit weight
3. Depth of stratigraphic layers is based on the maximum depth to bedrock seen in our borings in areas of the deepest fill beneath the building pad. Depth of layers may vary based on boring location. See boring logs and GeoModel for more detailed layer information at each location.

Stratigraphy ¹		LPILE Soil Model	S _u (psf) ²	γ' (pcf) ²	ε ₅₀	K (pci)	
Depth ³ (ft)	Material					Static	Cyclic

- Unconfined compressive strength (q_u) for weak rock (provided here in psi). For shale and sandstone bedrock, use initial modulus of rock mass (E_m) of 50,000 psi, RQD of 50%, and strain factor (k_{rm}) of 0.0005.

Drilled Pier Lateral Design Recommendations – Southern Portion of DC3A

Stratigraphy ¹		LPILE Soil Model	S _u (psf) ²	γ' (pcf) ²	ε ₅₀	K (pci)	
Depth ³ (ft)	Material					Static	Cyclic
0 to 24	New Engineered Fill	Stiff Clay w/o Free Water	1,000	120	Use Default Value		
24 to 39	Native Lean Clay	Stiff Clay w/o Free Water	1,000	120	Use Default Value		
39 and below	Bedrock (Shale or Sandstone)	Weak Rock	500 psi ⁴	145	N/A		

- See Subsurface Profile in [Geotechnical Characterization](#) for more details on Stratigraphy.
- Definition of Terms:
 S_u: Undrained shear strength
 γ': Effective unit weight
- Depth of stratigraphic layers is based on the maximum depth to bedrock seen in our borings in areas of the deepest fill beneath the building pad. Depth of layers may vary based on boring location. See boring logs and GeoModel for more detailed layer information at each location.
- Unconfined compressive strength (q_u) for weak rock (provided here in psi). For shale and sandstone bedrock, use initial modulus of rock mass (E_m) of 50,000 psi, RQD of 50%, and strain factor (k_{rm}) of 0.0005.

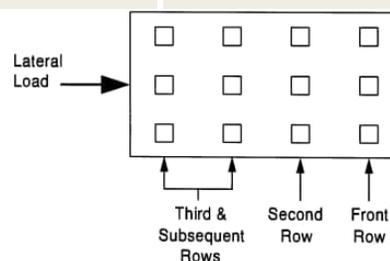
Drilled Pier Lateral Loading Grouping – Central and Eastern Portions of DC1A and DC2A, Southern Portion of DC3A

When drilled piers are used in groups, the lateral capacities of the piers in the second, third, and subsequent rows of the group should be reduced as compared to the capacity

of a single, independent pier. Guidance for applying p-multiplier factors to the p values in the p-y curves for each row of drilled pier foundations within a group are as follows:

Center to Center Drilled Pier Spacing ^{1,2}	P-Multiplier, P_m ³		
	Front Row	Second Row	Third and Subsequent Rows
3B	0.8	0.4	0.3
4B	0.9	0.65	0.5
5B	1.0	0.85	0.7
6B	1.0	1.0	1.0

1. Spacing in the direction of loading. B = pier diameter
2. For the case of a single row of piles supporting a laterally loaded grade beam, group action for lateral resistance of drilled piers would need be considered when spacing is less than three pier diameters (measured center-to-center).
3. See adjacent figure for definition of front, second and third rows.



Spacing closer than 3D (where D is the diameter of the pier) is not recommended without additional geotechnical consultation due to potential for the installation of a new pier disturbing an adjacent installed pier likely resulting in axial capacity reduction.

Drilled Pier Construction Considerations – Central and Eastern Portions of DC1A and DC2A, Southern Portion of DC3A

The drilling contractor should be experienced in the subsurface conditions observed at the site, and the excavations should be performed with equipment capable of providing a clean bearing surface. The drilled pier foundation system should be installed in general accordance with the procedures presented in "Standard Specification for the Construction of Drilled Piers", ACI Publication No. 336.1-01.

The contractor is generally expected to use conventional "dry" techniques for installation of drilled piers. Groundwater was not encountered during the subsurface exploration in the borings. However, temporary casing or other specialized drilling techniques may be needed to advance the driller pier excavations and maintain stability of the sidewalls if groundwater conditions are different at the time of construction, or if/where pier excavations extend through cohesionless/granular soils or engineered fill consisting of cohesionless/granular soils or rock fill. We do not anticipate that personnel would need to enter the pier to clean and/or test the bearing surface; however, if this becomes

necessary, temporary casing would be required. The contractor would also need to check for gas and/or oxygen deficiency prior to anyone entering the excavation.

The bottom of pier excavations should be cleaned of any water and loose material before placing reinforcing steel and concrete. A minimum pier diameter of at least 30 inches is recommended for the project.

Concrete should be placed soon after excavating to minimize bearing surface disturbance. It is recommended the geotechnical engineer be retained to observe and test the foundation bearing materials. Any water accumulating in the pier excavation should be pumped from the excavation or the water should be allowed to stabilize and then concrete should be placed using the tremie method.

If concrete will be placed as the temporary casing is being removed, we recommend the concrete mixture be designed with an appropriate slump to reduce the potential for arching when removing the casing. While removing the casing from a pier excavation during concrete placement, the concrete inside the casing should be maintained at a sufficient level to resist any earth and hydrostatic pressures outside the casing during the entire casing removal procedure.

We recommend that a representative of Terracon be present during drilling activities to evaluate the materials removed from the drilled pier excavations to determine when adequate capacity has been developed, to observe the base of the drilled pier excavation to determine that the cuttings have been adequately removed, and also to observe the concrete placement methods.

Switching Station and Substation Foundations

Based on the conditions encountered and estimated load-settlement relationships, small equipment can be supported on shallow foundations bearing in native soil, engineered fill, shale bedrock, or sandstone bedrock or on drilled pier foundations bearing in shale or sandstone bedrock. Bus/switch supports, dead end structures, transmission pole structures, and control house structures can be supported on drilled shaft foundations bearing in shale or sandstone bedrock. Transformers may be supported using either a mat foundation or drilled piers bearing in shale or sandstone bedrock.

Shallow Foundation Design Recommendations – Equipment Pads

Item	Description
Maximum Net Allowable Bearing Pressure ^{1, 2, 3}	<p><u>Oversized footings bearing on native soils or engineered fill</u> ⁶: 1,500 psf</p> <p><u>Footings bearing on native soils or engineered fill</u>: 2,500 psf</p> <p><u>Footings bearing on rock</u>: 5,000 psf</p>
Minimum Foundation Dimensions	<p>Isolated footings: 30 inches</p> <p>Continuous footings: 18 inches</p>
Minimum Embedment below Finished Grade ⁴	24 inches
Estimated Total Settlement from Structural Loads ²	On the order of 1 inch
Estimated Differential Settlement ^{2, 5, 6}	<p>About 1/2 to 2/3 of total settlement between foundations supported on soil.</p> <p>Up to 1 inch between soil- and rock-supported foundations.</p>

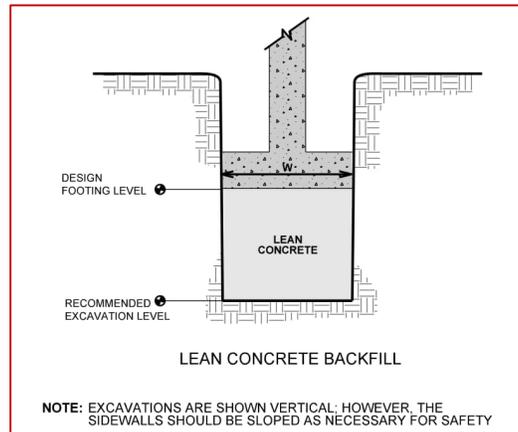
1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation.
2. Values provided are for maximum loads noted in [Project Description](#). Additional geotechnical consultation will be necessary if higher loads are anticipated.
3. Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in [Earthwork](#).
4. Embedment necessary to minimize the effects of frost and/or seasonal water content variations.
5. Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.
6. Oversized footings could be considered to further decrease differential settlement to achieve an estimated ½ inch of differential settlement measured over a span of 20 feet.

Shallow Foundation Construction Considerations – Equipment Pads

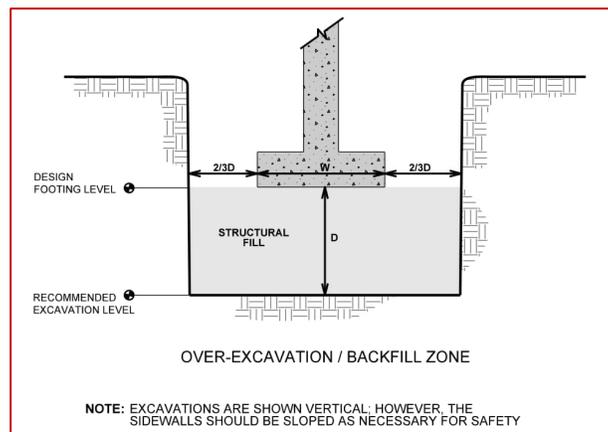
The base of all foundation excavations should be free of water and loose soil prior to placing concrete. Concrete should be placed soon after excavating to reduce bearing soil disturbance. Care should be taken to prevent wetting or drying of the bearing materials during construction. If the soils at the bearing level become excessively dry, disturbed, saturated, or frozen, the affected soil should be removed prior to placing concrete. If the

excavations must remain open overnight or for an extended period of time, placement of a lean concrete mud-mat over the bearing soils should be considered.

The bearing materials at the base of each footing excavation should be evaluated by a representative of the Geotechnical Engineer. If unsuitable bearing materials are observed, the excavation should be extended deeper to suitable soils. The footings could bear directly on suitable soils at the lower level or on lean concrete backfill as shown on the following figure.



Soil-supported footings could also bear on properly compacted engineered fill extending down to suitable soils as shown in the following figure. Overexcavation for compacted engineered fill placement below footings should extend laterally beyond all edges of the footings at least 8 inches per foot of overexcavation depth below footing elevation. The overexcavation should then be backfilled up to the footing base elevation with well graded granular material (e.g., ODOT Type "A" aggregate or an approved alternate gradation) placed and compacted as recommended in the [Earthwork](#) section.



Mat Foundation Design Recommendations – Transformer Pads

Description	Value
Net Allowable Bearing Pressure ¹	<u>Mat bearing on native soils or engineered fill</u> : 1,500 psf <u>Mat bearing on rock</u> : 5,000 psf
Minimum Embedment Below Finished Grade for Frost Protection ²	24 inches
Estimated Total Settlement from Structural Loads ³	On the order of 1 inch
Estimated Differential Settlement	About 1/3 to 2/3 of total settlement
Coefficient of Sliding Friction ⁴	0.3 (bearing on soil or fill) 0.45 (bearing on rock)

1. The allowable bearing pressure contains a factor of safety of at least 3 against general shear failure. The recommended net allowable bearing pressure is the pressure at the mat base elevation in excess of the minimum surrounding overburden pressure. All foundation excavations should be tested by a Terracon representative to verify that suitable bearing materials are encountered.
2. Minimum depth will provide frost protection. Greater foundation depth may be required to encounter the recommended bearing material.
3. Total settlement based on a mat foundation transmitting a pressure of 4,000 psf to the bearing soils.
4. Coefficient of friction value is an ultimate value and does not contain a factor of safety.

Mat Foundation Construction Considerations – Transformer Pads

We recommend the base of the mat excavation be observed and evaluated by the geotechnical engineer prior to placing reinforcing steel and concrete. If unsuitable soils or rock are encountered at the design bearing level, the mat should be extended deeper to encounter suitable soils or rock and the mat could bear directly on those soils or rock at the lower elevation or on lean concrete backfill placed in the excavation.

The mat excavation should be free of loose and disturbed material, debris, and water when concrete is placed. Concrete should be placed as soon as possible after the excavation is completed to reduce the potential for wetting, drying, or disturbance of the bearing materials.

Driller Pier Design Recommendations – All Substation and Switching Station Structures

Based on the subsurface conditions observed in the borings, small ancillary structures, bus and switch supports, dead end structures, transmission pole structures, control house structures, and transformer structures can all be supported by drilled piers bearing in shale or sandstone bedrock. Design soil parameters for drilled shaft foundations, representing the subsurface conditions observed at the borings, are presented on the Drilled Concrete Pier Design Soil Parameters tables included on the following pages. The values given in the tables are based on conditions observed in the borings, laboratory data, published values, and our experience. Note that these 4 pages of tables are not included in the page numbering system for this report, so they should be considered an extension of this page (page 35).

Drilled Concrete Pier Design Soil Parameters (Overburden) – Switching Station

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	Undrained Shear Strength S_u (psf)	Internal Friction Angle Φ (degrees)	LPILE Parameters			MFAD Parameters
					LPILE Soil Model	ϵ_{50}	Static Soil Modulus Parameter K_s (pci)	Modulus of Deformation (ksi)
3.5	Overburden Soils	120	--	30	Sand (Reese)		Default	0.55

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.

Lateral Drilled Concrete Pier Design Soil Parameters (Bedrock) – Switching Station

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	LPILE Parameters ²			MFAD Parameters ²		
			Strain Factor (k _{rm})	Uniaxial compressive Strength (psi)	Initial Modulus of Rock Mass (psi)	Undrained Shear Strength S_u (ksf)	Internal Friction Angle Φ (degrees)	Modulus of Deformation (ksi)
20	Shale Bedrock	145	0.0005	500	50,000	2.1	30	250

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.
2. Design capacities are dependent upon the method of installation, and quality control. The values provided are estimates and should be verified when installation protocol have been finalized. Shafts should extend at least one diameter into the bearing stratum for end bearing and lateral capacity within that layer to be considered for design.

Axial Drilled Concrete Pier Design Soil Parameters (Bedrock) – Switching Station

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	Ultimate Skin Friction ^{2,3} (ksf)	Ultimate End Bearing ³ (ksf)
20	Shale Bedrock	145	2.5	20

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.
2. Applicable for compressive loading only. Reduce to 2/3 of values shown for uplift loading.
3. Design capacities are dependent upon the method of installation, and quality control. The values provided are estimates and should be verified when installation protocol have been finalized. Shafts should extend at least one diameter into the bearing stratum for end bearing and lateral capacity within that layer to be considered.

Drilled Concrete Pier Design Soil Parameters (Overburden) – Temporary Substation

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	Undrained Shear Strength S_u (psf)	Internal Friction Angle Φ (degrees)	LPILE Parameters			MFAD Parameters
					LPILE Soil Model	ϵ_{50}	Static Soil Modulus Parameter K_s (pci)	Modulus of Deformation (ksi)
8.5	Overburden Soils	120	1,500	--	Stiff Clay w/o Free Water	Default	0.55	

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.
2. Applicable for compressive loading only. Reduce to 2/3 of values shown for uplift loading.
3. NR = not recommended
4. Design capacities are dependent upon the method of installation, and quality control. The values provided are estimates and should be verified when installation protocol have been finalized. Shafts should extend at least one diameter into the bearing stratum for end bearing and lateral capacity within that layer to be considered for design.

Lateral Drilled Concrete Pier Design Soil Parameters (Bedrock) – Temporary Substation

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	LPILE Parameters ²			MFAD Parameters ²		
			Strain Factor (k/rm)	Uniaxial compressive Strength (psi)	Initial Modulus of Rock Mass (psi)	Undrained Shear Strength S_u (ksf)	Internal Friction Angle Φ (degrees)	Modulus of Deformation (ksi)
13.5	Shale Bedrock	145	0.0005	500	50,000	2.1	30	250
18.9	Sandstone Bedrock							

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.
2. Design capacities are dependent upon the method of installation, and quality control. The values provided are estimates and should be verified when installation protocol have been finalized. Shafts should extend at least one diameter into the bearing stratum for end bearing and lateral capacity within that layer to be considered for design.

Axial Drilled Concrete Pier Design Soil Parameters (Bedrock) – Temporary Substation

Bottom Depth ¹	Layer Description	Total Unit Weight (pcf)	Ultimate Skin Friction ^{2,3} (ksf)	Ultimate End Bearing ³ (ksf)
13.5	Shale Bedrock	145	2.5	20
18.9	Sandstone Bedrock			

1. Approximate depth is below the existing ground surface. The stratigraphic layers shown above are based on our interpretation of soil strength and may not correspond with the descriptive classifications shown on the boring logs.
2. Applicable for compressive loading only. Reduce to 2/3 of values shown for uplift loading.
3. Design capacities are dependent upon the method of installation, and quality control. The values provided are estimates and should be verified when installation protocol have been finalized. Shafts should extend at least one diameter into the bearing stratum for end bearing and lateral capacity within that layer to be considered.

The drilled pier construction considerations section for the [Central and Eastern Portions of DC1A and DC2A](#), [Southern Portion of DC3A](#) are applicable to the drilled piers for the switching and substation structures.

HUB and Access Building Foundations

Based on the conditions encountered at the borings, the buildings can be supported on shallow isolated and/or continuous foundations that bear on native clay or clayey sand soils, native shale or sandstone bedrock, and/or engineered fill, provided differential settlement equal to the estimated total settlement is tolerable and settlement monitoring as described in the [Fill Induced Settlement Considerations](#) section is performed prior to shallow foundation construction.

Shallow Foundation Design Parameters

Item	Description
Maximum Net Allowable Bearing Pressure ^{1, 2, 3}	<p><u>Oversized footings bearing on native soils or engineered fill</u> ⁶: 1,500 psf</p> <p><u>Footings bearing on native soils or engineered fill</u>: 2,500 psf</p> <p><u>Footings bearing on rock</u>: 5,000 psf</p>
Minimum Foundation Dimensions	<p>Isolated footings: 30 inches</p> <p>Continuous footings: 18 inches</p>
Minimum Embedment below Finished Grade ⁴	24 inches
Estimated Total Settlement from Structural Loads ²	On the order of 1 inch
Estimated Differential Settlement ^{2, 5, 6}	<p>About 1/2 to 2/3 of total settlement between foundations supported on soil.</p> <p>Up to 1 inch between soil- and rock-supported foundations.</p>

1. The maximum net allowable bearing pressure is the pressure in excess of the minimum surrounding overburden pressure at the footing base elevation.
2. Values provided are for maximum loads noted in [Project Description](#). Additional geotechnical consultation will be necessary if higher loads are anticipated.

Item	Description
3.	Unsuitable or soft soils should be overexcavated and replaced per the recommendations presented in Earthwork .
4.	Embedment necessary to minimize the effects of frost and/or seasonal water content variations.
5.	Differential settlements are noted for equivalent-loaded foundations and bearing elevation as measured over a span of 50 feet.
6.	Oversized footings could be considered to further decrease differential settlement to achieve an estimated ½ inch of differential settlement measured over a span of 20 feet.

The shallow foundation construction considerations for the [Small Equipment Pads](#) section are applicable to the shallow foundations for the switching and substation structures.

Floor Slabs

Floor Slab Design Parameters

Item	Description
Floor Slab Support ^{1,4}	At least 24 inches of subgrade meeting LVC requirements
Granular Leveling Course Layer Thickness ^{1,2}	4 inches (minimum)
Estimated Modulus of Subgrade Reaction ³	100 pounds per square inch per inch (psi/in) for point loads

1. Floor slabs should be structurally independent of building footings or walls to reduce the possibility of floor slab cracking caused by differential movements between the slab and foundation.
2. Well-graded crushed stone (e.g., ODOT Type "A" aggregate base course) or open-graded crushed stone (e.g., ASTM C33, Size No. 57 aggregate) can be used as the leveling course.
3. Modulus of subgrade reaction is an estimated value based upon our experience with the subgrade condition, the requirements noted in [Earthwork](#), and the floor slab support as noted in this table. It is provided for point loads. For large area loads the modulus of subgrade reaction would be lower.

Item	Description
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4. LVC may consist of on-site soils or imported material provided that they meet the specifications for LVC as outlined in [Fill Material Types](#).

The use of a vapor retarder should be considered beneath concrete slabs on grade covered with wood, tile, carpet, or other moisture sensitive or impervious coverings, when the project includes humidity-controlled areas, or when the slab will support equipment sensitive to moisture. When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder.

Joints should be placed in slabs at regular intervals as recommended by ACI to help control the locations of cracks. Joints or any cracks that develop in the floor slab should be sealed with a waterproof, non-extruding compressible compound.

If floor slabs are tied to perimeter walls or turn-down slabs to meet structural or other construction objectives, our experience indicates differential movement between the walls and slabs will likely be observed in adjacent slab expansion joints or floor slab cracks beyond the length of the structural dowels. The structural engineer should account for potential differential settlement through use of sufficient control joints, appropriate reinforcing, or other means.

Floor Slab Construction Considerations

The subgrade should be maintained within the moisture content range recommended for engineered fill until the floor slab is constructed. If the subgrade becomes desiccated before construction of the floor slab, the affected material should be removed or the materials should be scarified, moistened, and compacted. Upon completion of grading operations in the building area, care should be taken to maintain the subgrade within the moisture content and density ranges recommended for engineered fill before construction of the building floor slab.

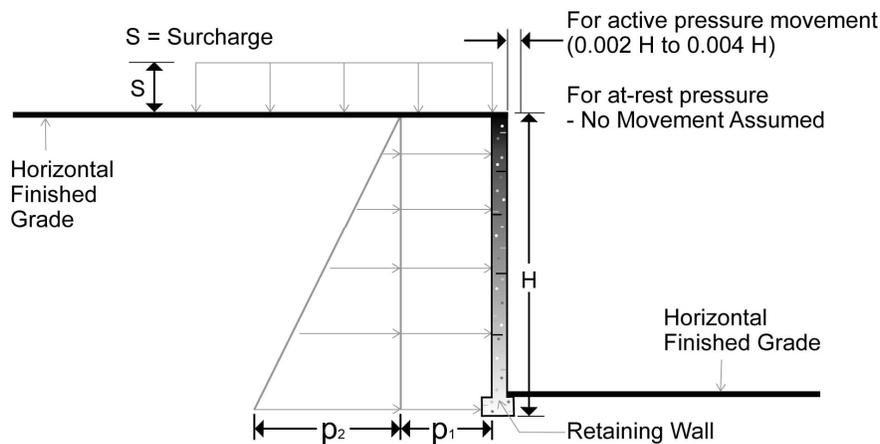
On most project sites, the site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade may be disturbed due to utility excavations, construction traffic, desiccation, rainfall etc. As a result, the floor slab subgrade soils may not be suitable for placement of the granular course or concrete at the time of building construction, and corrective action may be required.

The Geotechnical Engineer should observe the condition of the floor slab subgrades immediately prior to placement of the floor slab support course, reinforcing steel, and concrete. Attention should be paid to high traffic areas that were rutted and disturbed earlier, and to areas where backfilled trenches are located.

Lateral Earth Pressures

Lateral Earth Pressure Design Parameters

Structures with unbalanced backfill levels on opposite sides should be designed for earth pressures at least equal to values indicated in the following table. Earth pressures will be influenced by structural design of the walls, conditions of wall restraint, methods of construction, methods and degree of compaction, and the strength of the materials being restrained. Two wall restraint conditions are shown in the diagram below. Active earth pressure is commonly used for design of free-standing cantilever retaining walls where wall movement is acceptable. The “at-rest” condition assumes no wall movement and is commonly used for design of loading dock walls and other walls that are restrained at the top. The recommended design lateral earth pressures do not include a factor of safety. The drained parameters do not provide for possible hydrostatic pressure on the walls.



Lateral Earth Pressure Design Parameters

Earth Pressure Condition ¹	Coefficient for Backfill Type ^{2,3}	Surcharge Pressure, p_1 (psf) ^{4,5}	Equivalent Fluid Unit Weight, p_2 (pcf) ^{2,5}	
			Drained ⁶	Undrained ⁶
Active (K_a)	Granular - 0.31	$(0.31)S$	40	80
	Clay - 0.42	$(0.42)S$	50	85
At-Rest (K_o)	Granular - 0.47	$(0.47)S$	60	90
	Clay - 0.59	$(0.59)S$	70	95
Passive (K_p)	Granular - 3.3	---	420	290
	Clay - 2.4	---	280	200

Lateral Earth Pressure Design Parameters

Earth Pressure Condition ¹	Coefficient for Backfill Type ^{2,3}	Surcharge Pressure, p_1 (psf) ^{4,5}	Equivalent Fluid Unit Weight, p_2 (pcf) ^{2,5}	
			Drained ⁶	Undrained ⁶

1. For active earth pressure, wall must rotate about base, with top lateral movements 0.002 H to 0.004 H, where H is wall height. For passive earth pressure, wall must move horizontally to mobilize resistance.
2. Uniform, horizontal backfill, with a maximum unit weight of 120 pcf for clay soils and 130 pcf for granular soils.
3. Granular material backfill $\phi = 32$ deg. (minimum)
Clay backfill $\phi = 24$ deg. (minimum)
4. Uniform surcharge, where S is surcharge pressure
5. Loading from heavy compaction equipment is not included.
6. To achieve "Drained" conditions, follow guidelines in Subsurface Drainage for Below-Grade Walls below. "Undrained" conditions are recommended when drainage behind walls is not incorporated into the design.

Backfill placed against structures should consist of granular soils or low plasticity cohesive soils. For the granular values to be valid, the granular backfill must extend out and up from the base of the wall at an angle of at least 45 degrees from vertical for the active case.

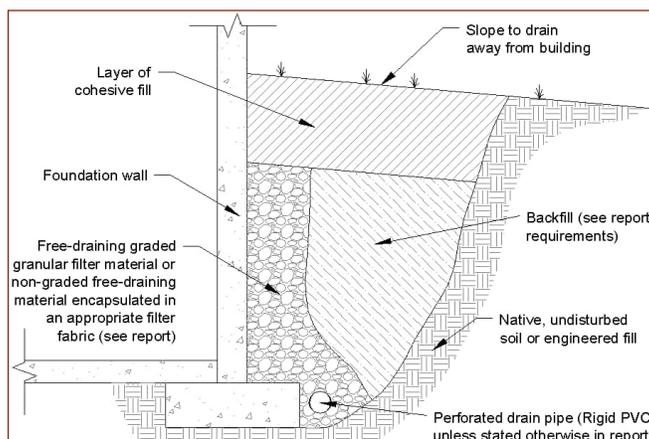
Footings, floor slabs or other loads bearing on backfill behind walls may have a significant influence on the lateral earth pressure. Placing footings within wall backfill and in the zone of active soil influence on the wall should be avoided unless structural analyses show the wall can safely withstand the increased pressure.

The lateral earth pressure recommendations given in this section are applicable to the design of rigid retaining walls subject to slight rotation, such as cantilever, or gravity type concrete walls. These recommendations are not applicable to the design of modular block - geogrid reinforced backfill walls (also termed MSE walls). Recommendations covering these types of wall systems are beyond our scope of services for this project. However, we would be pleased to develop a proposal for evaluation and design of such wall systems upon request.

Subsurface Drainage for Below-Grade Walls

A perforated rigid plastic drain line installed behind the base of walls that extend below adjacent grade is recommended to prevent hydrostatic loading on the walls. The invert of a drain line around a below-grade building area or exterior retaining wall should be placed near foundation bearing level. The drain line should be sloped to provide positive gravity drainage to daylight or to a sump pit and pump. The drain line should be

surrounded by clean, free-draining granular material having less than 5% passing the No. 200 sieve, such as ASTM C 33, Size No. 57 aggregate. The free-draining aggregate should be encapsulated in a filter fabric. The granular fill should extend to within 2 feet of final grade, where it should be capped with compacted cohesive fill to reduce infiltration of surface water into the drain system.



As an alternative to free-draining granular fill, a prefabricated drainage structure may be used. A prefabricated drainage structure is a plastic drainage core or mesh which is covered with filter fabric to limit soil intrusion and is fastened to the wall before placing backfill.

Pavements

General Pavement Comments

A critical aspect of pavement performance is site preparation. Pavement designs noted in this section must be applied to the site which has been prepared as recommended in the [Earthwork](#) section.

Pavement Design Parameters

A California Bearing Ratio (CBR) of 4 was used for the subgrade for the asphaltic concrete (AC) pavement designs based on laboratory testing performed by Terracon and included in [Exploration Results](#). A modulus of subgrade reaction of 150 pci was used for the portland cement concrete (PCC) pavement designs. These values were empirically derived based upon our experience with the lean clay and clayey sand subgrade soils and our expectation of the quality of the subgrade as prescribed by the [Site Preparation](#) conditions as outlined in [Earthwork](#). A modulus of rupture of 550 psi

was used in design for the concrete (based on correlations with a minimum 28-day compressive strength of 4,000 psi).

Pavement Section Thicknesses

The following table provides our opinion of minimum thickness for pavement sections, along the main spine road through the site, which will receive traffic from all three buildings on the campus. This section was designed for an ADT of 2,670 vehicles/day based on an overall campus operating capacity of 600 MW:

Layer	Pavement Section ¹	Minimum Recommended Pavement Section Thickness (in.)				
		Asphaltic Surface Course ²	Asphaltic Binder Course ²	Portland Cement Concrete ² (4000 psi)	Aggregate Base ²	Total
Heavy Duty+	I	2	8	--	6	16
	II	--	--	10	4	14

1. Pavement Section I: Asphaltic Concrete over Aggregate Base
 Pavement Section II: 4,000 psi, Air-Entrained Portland Cement Concrete (PCC)
2. Oklahoma Department of Transportation Standard Specifications for Highway Construction (2019)

The following table provides our opinion of minimum thickness for pavement sections, for roads leading to individual buildings, which will receive traffic from only one building on campus. This section was designed for an ADT of 1,000 vehicles/day based on an individual data center operating capacity of 200 MW:

Layer	Pavement Section ¹	Minimum Recommended Pavement Section Thickness (in.)				
		Asphaltic Surface Course ²	Asphaltic Binder Course ²	Portland Cement Concrete ² (4000 psi)	Aggregate Base ²	Total
Standard Duty	I	2	4	--	6	12
	II	--	--	5	4	9
Medium Duty	I	2	5	--	6	13
	II	--	--	7	4	11
Heavy Duty	I	2	6	--	6	14
	II	--	--	8	4	12

1. Pavement Section I: Asphaltic Concrete over Aggregate Base
 Pavement Section II: 4,000 psi, Air-Entrained Portland Cement Concrete (PCC)

2. Oklahoma Department of Transportation Standard Specifications for Highway Construction (2019)

PCC pavements will perform better than ACC in areas where short radius turning and braking is expected (i.e., entrance/exit aprons) due to better resistance to rutting and shoving. In addition, PCC pavement will perform better in areas subject to heavy static loads.

Construction traffic on the pavements was not considered in developing our opinions of minimum pavement thickness. If the pavements will be subject to construction equipment/vehicles, the pavement sections should be revised to consider the additional loading.

Pavements and subgrades will be subject to freeze-thaw cycles and seasonal fluctuations in moisture content. Pavement thickness design methods are intended to provide adequate thickness of structural materials over a particular subgrade such that wheel loads are reduced to a level that the subgrade can support. The subgrade support parameters for pavement thickness design do not account for shrink/swell movements of a subgrade constructed of expansive clay soils. Therefore, the pavement may be adequate from a structural standpoint, yet still experience cracking and deformation due to shrink/swell related movement of the subgrade.

The pavement sections provided above are based on the assumption that the subgrade soils will not experience significant increases in moisture content. Paved areas should be sloped to provide rapid drainage of surface water and to drain water away from the pavement edges. Pavements should be designed so water does not accumulate on or adjacent to the pavement, since this could saturate and soften the subgrade soils and subsequently accelerate pavement deterioration.

Periodic maintenance of the pavements will be required. Cracks should be sealed, and areas exhibiting distress should be repaired promptly to help prevent further deterioration. Even with periodic maintenance, some movement and related cracking may still occur, and repairs may be required.

General Comments

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction. Terracon should be retained as the Geotechnical Engineer, where noted in this report, to provide observation and testing

services during pertinent construction phases. If variations appear, we can provide further evaluation and supplemental recommendations. If variations are noted in the absence of our observation and testing services on-site, we should be immediately notified so that we can provide evaluation and supplemental recommendations.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly affect excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety and cost estimating including excavation support and dewatering requirements/design are the responsibility of others. Construction and site development have the potential to affect adjacent properties. Such impacts can include damages due to vibration, modification of groundwater/surface water flow during construction, foundation movement due to undermining or subsidence from excavation, as well as noise or air quality concerns. Evaluation of these items on nearby properties are commonly associated with contractor means and methods and are not addressed in this report. The owner and contractor should consider a preconstruction/precondition survey of surrounding development. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

Attachments

Exploration and Testing Procedures

Field Exploration

Preliminary Borings ¹	Design-Level Study Locations	Approximate Boring Depth (feet) ²	Location ³
6	24	20 to 40 or auger refusal	DC1A
6	24	20 to 40 or auger refusal	DC2A
9	18	20 to 40 or auger refusal	DC3A
0	2	30 to 40	North HUB Building
1	3	20 to 25	South HUB Building
2	5	20 to 24 or auger refusal	Switching Station
0	2	20	Temporary Substation
1	2	20 to 30	Access Drive Building
4	4	20 or auger refusal	Detention Ponds
50	37	20 to 30 or auger refusal	Pavement/driveway and general civil borings

1. Terracon previously performed 79 soil borings as part of our preliminary Geotechnical Report No. 04245081, dated December 12th, 2024. We utilized the available field and laboratory information in addition to our design level borings to aid in our analyses.
2. To account for the anticipated grade cuts, the depth of each borehole varied as shown on the attached boring logs in [Exploration Results](#).
3. The preliminary and design level boring locations are shown on the attached [Exploration Plan](#).

Boring Layout and Elevations: Terracon personnel provided the boring layout using handheld GPS equipment (estimated horizontal accuracy of about ±10 feet) and referencing existing site features. Approximate ground surface elevations were estimated using Google Earth. If elevations and a more precise boring layout are desired, we recommend borings be surveyed.

Subsurface Exploration Procedures: We advanced the borings with track-mounted and ATV-mounted rotary drill rigs using continuous flight augers and mud-rotary drilling as necessary. Samples were obtained using thin-walled tube and split-barrel sampling procedures. In the thin-walled tube sampling procedure, a thin-walled, seamless steel tube with a sharp cutting edge was pushed hydraulically into the soil to obtain a relatively undisturbed sample. In the split-barrel sampling procedure, a standard 2-inch outer diameter split-barrel sampling spoon was driven into the ground by a 140-pound automatic hammer falling 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. We observed and recorded groundwater levels during drilling and sampling. For safety purposes, all borings were backfilled with auger cuttings after their completion. Pavements were patched with cold-mix asphalt and/or pre-mixed concrete, as appropriate.

We also observed the boreholes while auger drilling and at the completion of auger drilling for the presence of groundwater. The groundwater levels are shown on the attached boring logs. In the borings where rock coring was performed, water was introduced into the boreholes as part of the coring process. The drilling fluid masked the depth of groundwater, so water levels were not recorded after the start of the coring.

Upon encountering bedrock or refusal-to-drill conditions, rock coring (using NX rock core barrel) was performed at select locations shown on the attached boring logs in [Exploration Results](#). The borings to be cored extended to at least 5 feet below the proposed bearing elevation. Core recovery and RQD values were measured and recorded on the boring logs in accordance with ASTM D6032. Water was used as drilling fluid for rock coring and the spent water was discharged on site.

We also collected bulk samples of auger cuttings from 3 boring locations at each site from depths ranging from below the topsoil layer to 5 feet for laboratory testing.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials observed during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring logs represent our interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests. The laboratory testing program included the following types of tests:

- Moisture Content
- Grain Size Analysis
- Atterberg Limits
- California Bearing Ratio
- Moisture-Density Relationship
- Corrosive Suite
- Thermal resistivity
- Unconfined Compressive Strength of Rock

Based on the results of our field and laboratory programs, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Rock classification was conducted using locally accepted practices for engineering purposes in accordance with the attached Rock Classification Notes; petrographic analysis may reveal other rock types.

Corrosivity Testing: Bulk samples of near-surface soils were tested in the laboratory for the following properties in general accordance with the corresponding standards:

- pH Analysis (ASTM G51)
- Chloride (ASTM D512)
- Sulfate (ASTM C1580)
- Sulfide Content (AWWA 4500-S D)
- Oxidation-Reduction Potential (ASTM G200)
- Electrical Resistivity Testing (ASTM G187)

Unconfined Compressive Strength Testing Results

Unconfined compressive strength testing on rock core samples obtained during field exploration was performed or attempted on the following specimens.

Boring ID	Depth	Unconfined Compressive Strength (psi)
B-195	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-197	10 to 15	Too fragile ¹
	15 to 20	3,399
	20 to 25	1,573

Boring ID	Depth	Unconfined Compressive Strength (psi)
	25 to 30	Too fragile ¹
B-199	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-203	15 to 20	Too fragile ¹
	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-207	20 to 25	Too fragile ¹
	25 to 30	1,781
B-217	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-221	20 to 25	6,696
	25 to 30	Too fragile ¹
B-227	20 to 25	Too fragile ¹
B-228	10 to 15	6,315
	15 to 20	4,575
	20 to 25	6,896
	25 to 30	Too fragile ¹
	30 to 35	4,475
	35 to 40	4,861
B-156	10 to 15	1,377
	15 to 20	3,268
	20 to 25	2,397
	25 to 30	Too fragile ¹
B-158	10 to 15	3,333
	15 to 20	Too fragile ¹
	20 to 25	4,327
	25 to 30	3,711
B-165	10 to 15	3,383
	15 to 20	1,773
	20 to 25	1,499
	25 to 30	3,408
B-166	15 to 20	3,412
	20 to 25	Too fragile ¹
	25 to 30	3,382
	30 to 35	1,684
B-167	10 to 15	2,975
	15 to 20	4,426
	20 to 25	Too fragile ¹
	25 to 30	5,233

Boring ID	Depth	Unconfined Compressive Strength (psi)
B-170	10 to 15	Too fragile ¹
	15 to 20	Too fragile ¹
B-176	15 to 20	2,252
	20 to 25	Too fragile ¹
	25 to 30	3,003
	30 to 35	3,203
	35 to 40	2,289
B-181	15 to 20	4,583
	20 to 25	2,790
	25 to 30	Too fragile ¹
B-186	14 to 19	4,860
	19 to 24	4,664
B-187	14 to 19	5,073
	19 to 24	3,660
B-103	10 to 15	4,353
	15 to 20	4,720
	20 to 25	5,444
	25 to 30	5,892
B-105	10 to 15	4,502
	15 to 20	4,374
	20 to 25	6,433
	25 to 30	5,815
B-106	10 to 15	1,778
	15 to 20	Too fragile ¹
B-107	10 to 15	1,880
	15 to 20	2,924
B-108A	10 to 14	Too fragile ¹
	14 to 19	Too fragile ¹
	19 to 24	Too fragile ¹
	24 to 29	6,220
B-109	10 to 15	Too fragile ¹
	15 to 20	Too fragile ¹
	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-125A	10 to 15	Too fragile ¹
	15 to 20	7,736
B-126	10 to 15	Too fragile ¹
	15 to 20	3,614
	20 to 25	4,918

Boring ID	Depth	Unconfined Compressive Strength (psi)
	25 to 30	4,224
B-131	10 to 15	Too fragile ¹
	15 to 20	Too fragile ¹
	20 to 25	1,673
	25 to 30	Too fragile ¹
B-137	10 to 15	Too fragile ¹
	15 to 20	Too fragile ¹
B-141	15 to 20	5,033
	20 to 25	Too fragile ¹
	25 to 30	Too fragile ¹
B-148	10 to 15	Too fragile ¹
	15 to 20	Too fragile ¹
B-151	10 to 15	2,430
	15 to 20	1,924
	20 to 25	1,958
	25 to 30	4,663

1. Samples of shale taken at the site were prone to fracturing and slaking during the preparation process for unconfined compressive strength testing. Some samples were too fragile to be prepared for a representative unconfined compressive strength test. This does not necessarily mean that the shale that is too fragile for testing is low strength material, as in-situ properties of shale can vary greatly from unconfined samples.

Site Location and Exploration Plans

Contents:

- Site Location Plan
- Exploration Plan (4 pages)
- Seismic Refraction Testing Locations

Note: All attachments are one page unless noted above.

Site Location

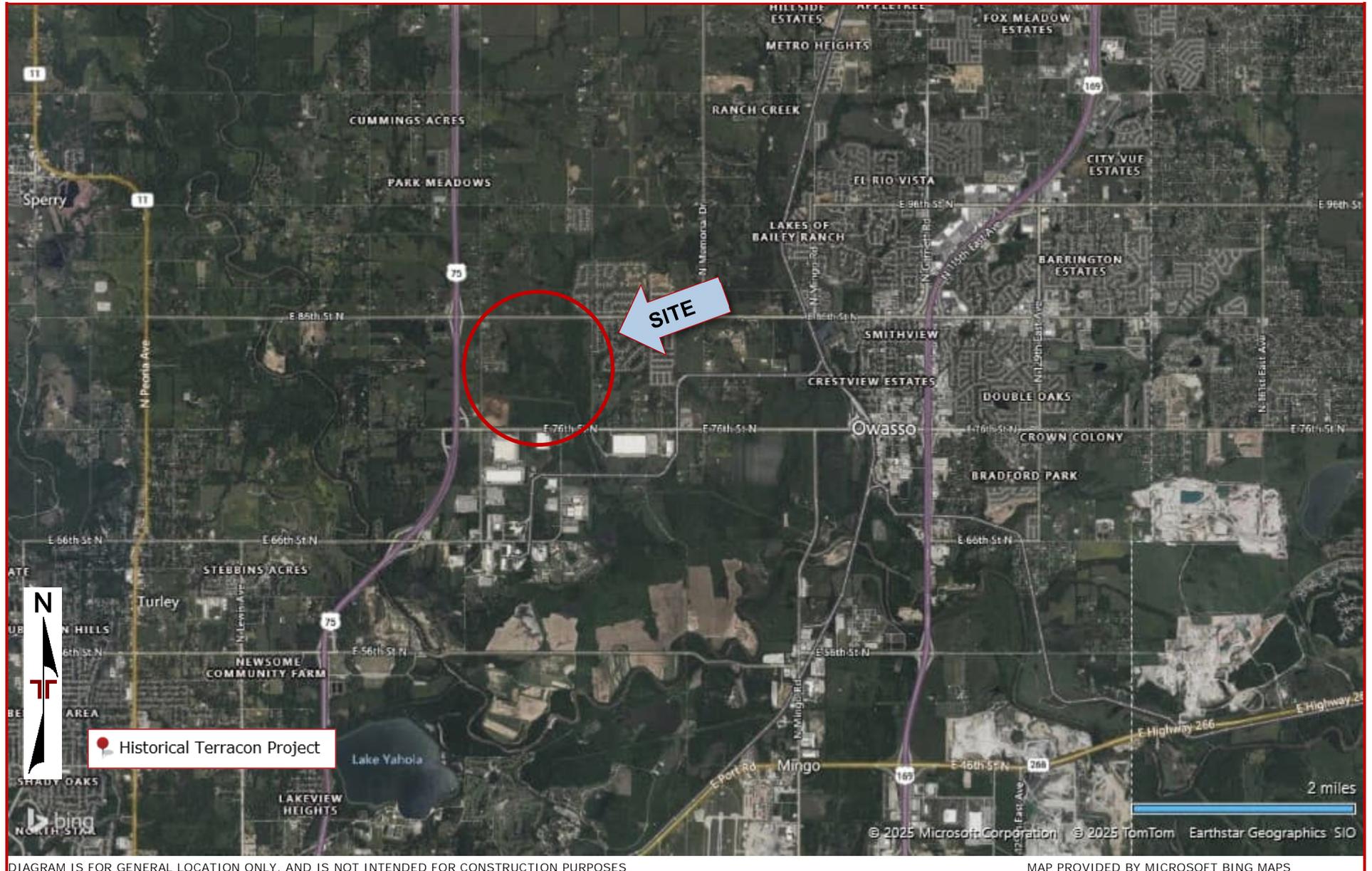
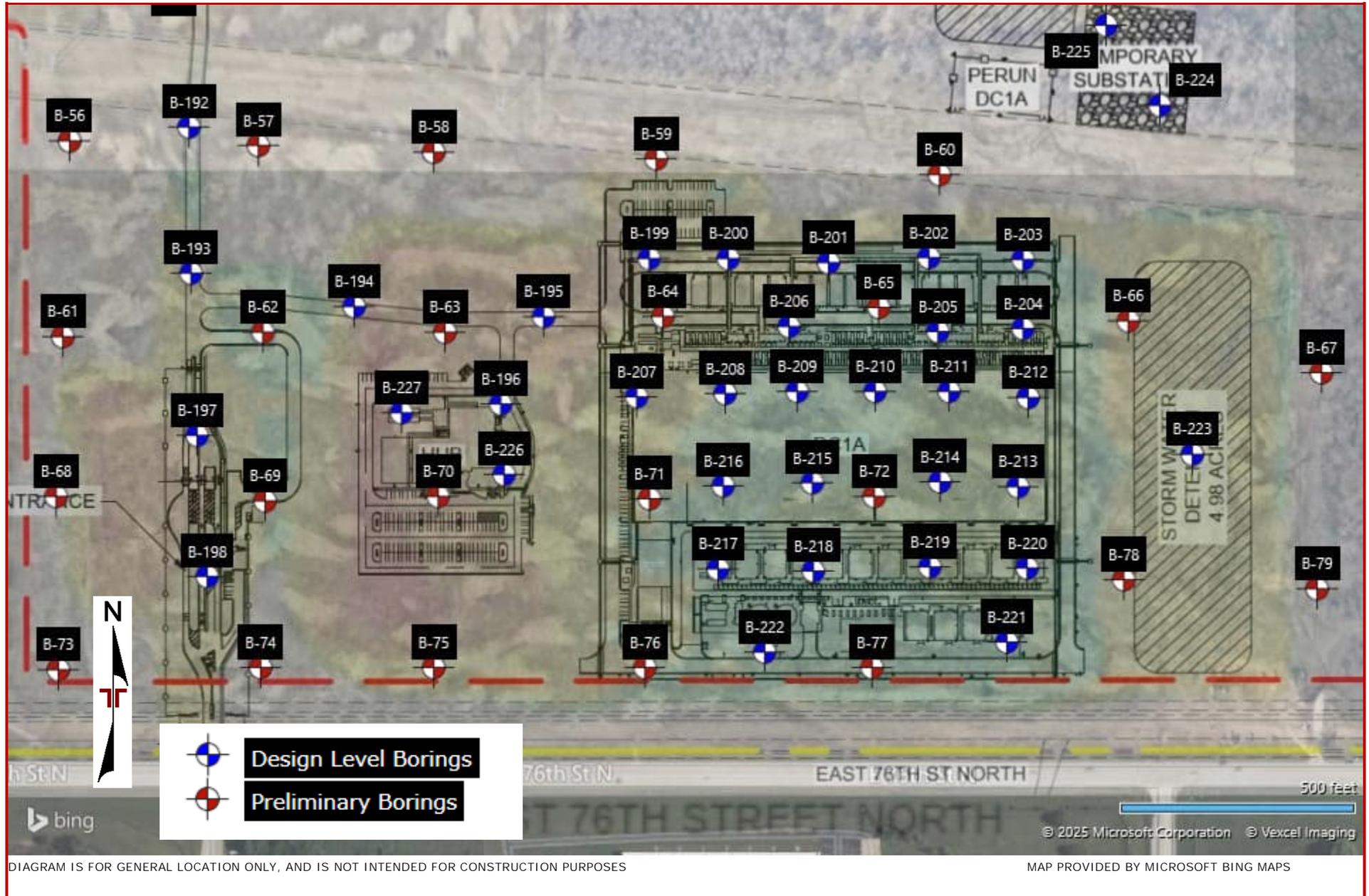


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan (Phase 1; 1 of 4)



Exploration Plan (Phase 2; 2 of 4)

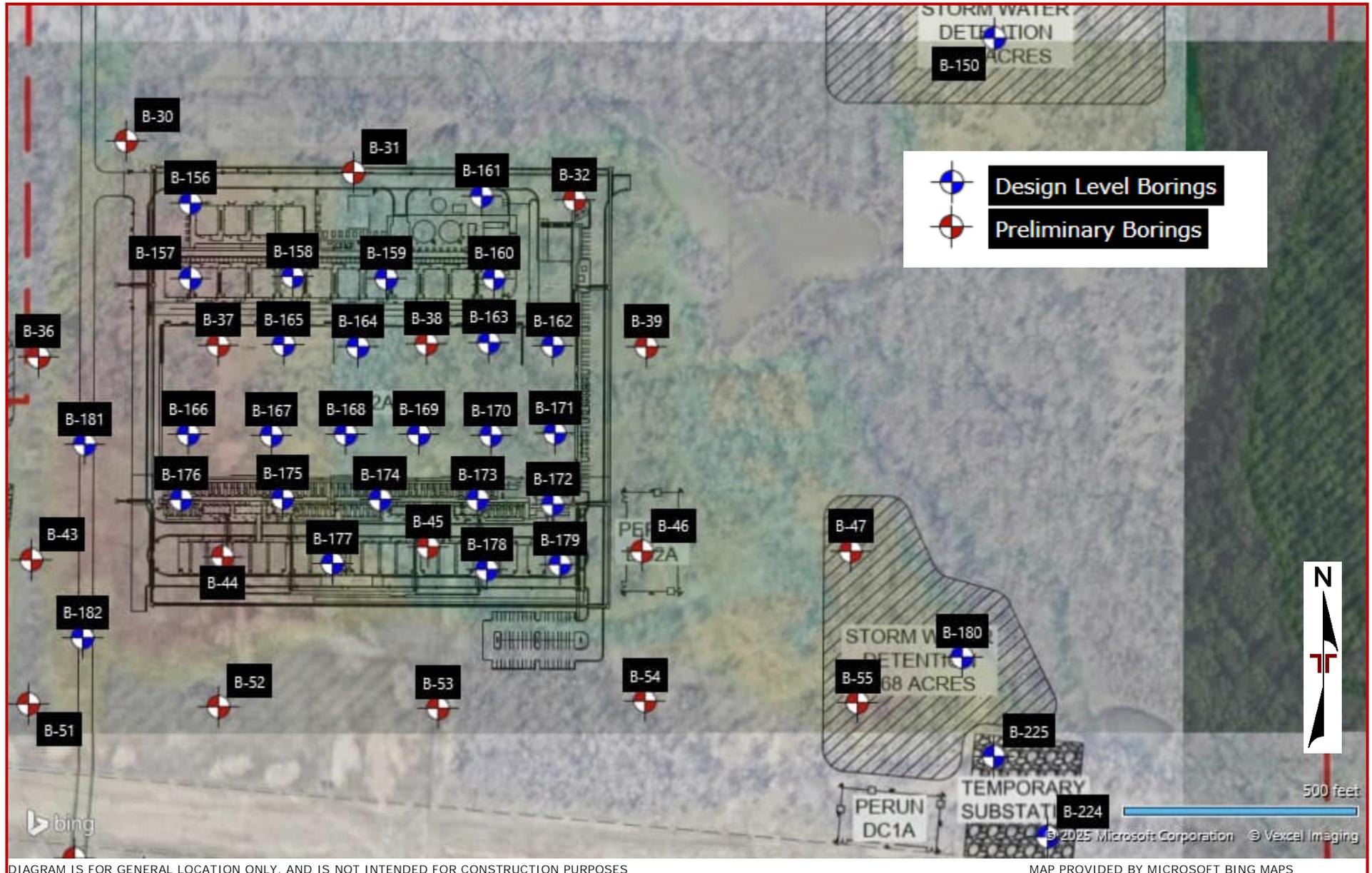


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MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan (Phase 2; 3 of 4)

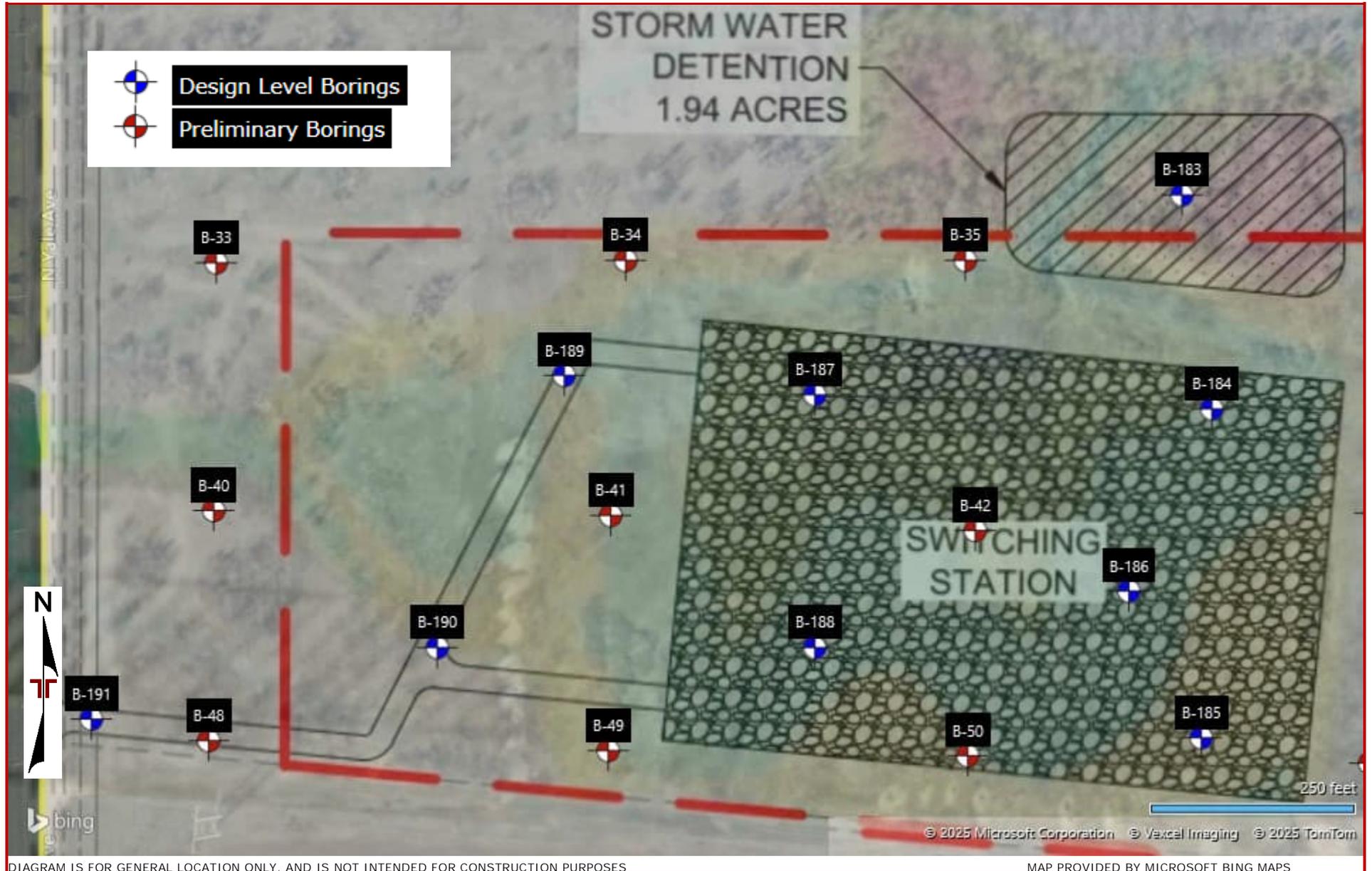


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MAP PROVIDED BY MICROSOFT BING MAPS

Exploration Plan (Phase 3; 4 of 4)

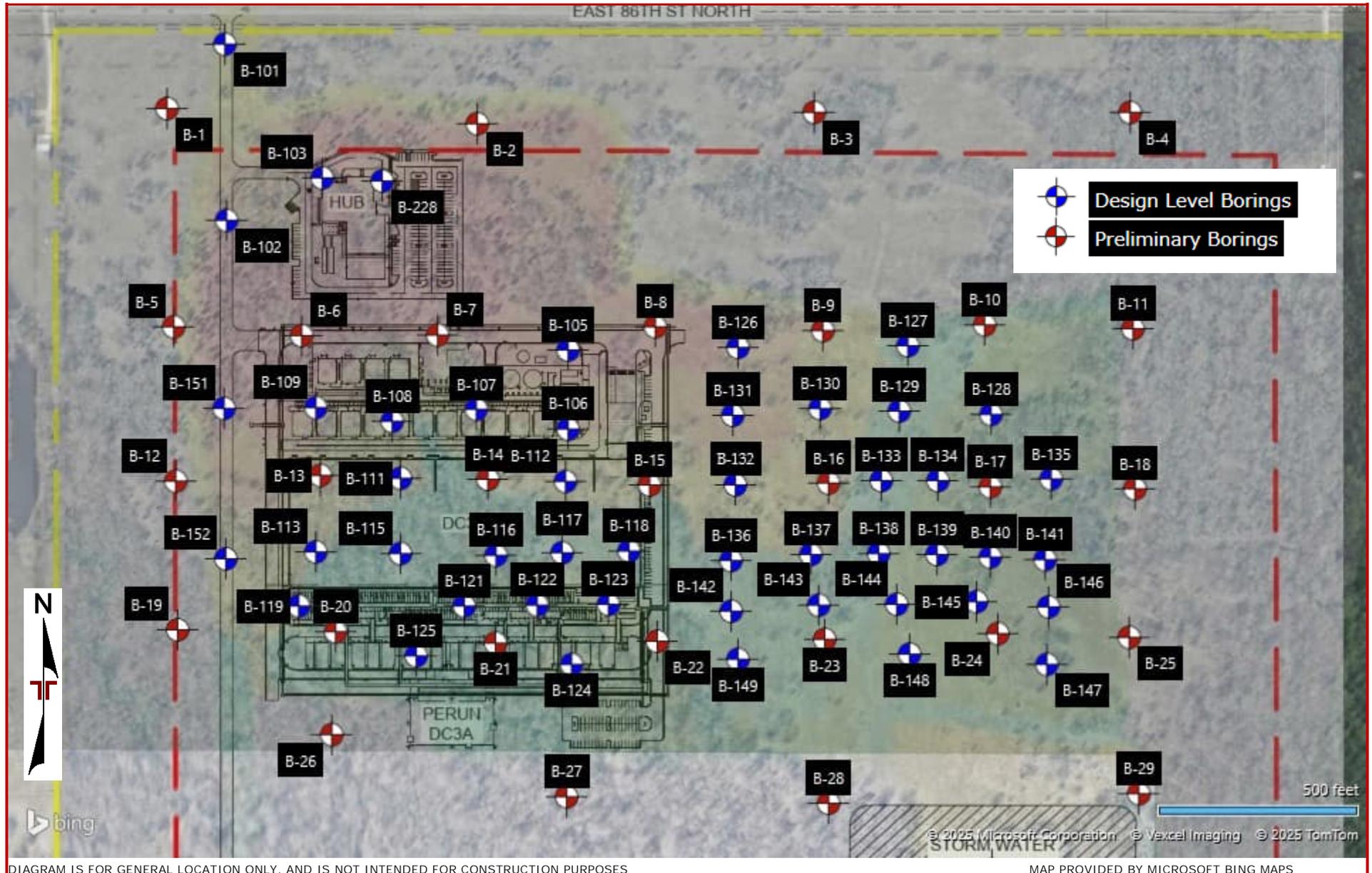


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MAP PROVIDED BY MICROSOFT BING MAPS



Seismic Refraction Line (SR-X)



Date: 06/2025 | Project Number: 04255087

Line Location Map

Project Clydesdale
Owasso, Oklahoma

Exhibit

1

Exploration and Laboratory Results

Contents:

Preliminary Boring Logs (B-1 through B-79)
Boring Logs (B-101 through B-230)
Seismic Refraction Testing Results (10 pages)
Atterberg Limits (7 pages)
Grain Size Distribution (24 pages)
California Bearing Ratio Testing Results (5 pages)
Standard Proctor Testing Results (3 pages)
Corrosive Suite Testing Results (3 pages)
Thermal Resistivity Testing Results (4 pages)

Note: All attachments are one page unless noted above.

Boring Log No. B-1

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2778° Longitude: -95.9145° Depth (Ft.) _____ Elevation: 687 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown and olive brown, soft	2.0	685	X	18	0-0-3 N=3		25.4			
		LEAN CLAY (CL) , with sandstone seams, brown and olive brown, very stiff to hard			X	18	4-7-9 N=16		13.4		35-19-16	
					X	18	7-15-25 N=40		12.6			
					X	18	30-29-14 N=43		14.2			
2		SANDSTONE+ , brown, well cemented	8.5	678.5		1	50/1"		6.5			
		Auger Refusal on sandstone at 10 Feet	10.0	677								

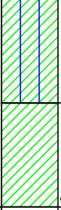
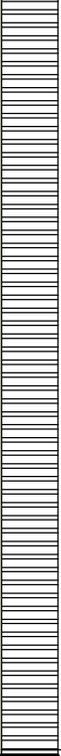
<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p> <hr/> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>
	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-2

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2777° Longitude: -95.9118° Depth (Ft.) _____ Elevation: 691 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
2		Approximately 6" Topsoil SANDSTONE+ , brown and reddish brown, poorly cemented to well cemented	5		X	12	9-29-47 N=76		6.6			
					X	6	50/6"		4.8			
					X	2	50/2"		10.1			
					/	1	50/1"		9.2			
		7.0 _____ 684										
		Auger Refusal on sandstone at 7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-3

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2778° Longitude: -95.9090° Depth (Ft.) _____ Elevation: 670 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Dozed SILTY LEAN CLAY (CL-ML) , brown, reddish brown and gray, soft	2.0	668	X	18	0-1-2 N=3		20.4		28-21-7		
		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff	4.0	666	X	18	7-9-11 N=20		10.8				
		SHALE+ , olive brown and gray, soft			5	X	18	8-25-38 N=63		9.0		38-18-20	
2					X	12	35-50/6"		10.2				
					X	6	50/6"		8.9				
					X	5	50/5"		10.6				
		SHALE+ , gray, hard	18.5	651.5	X	1	50/1"		4.7				
		Boring Terminated at 18.6 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-4

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2778° Longitude: -95.9063°	Depth (Ft.)	Elevation: 643 (Ft.) +/-	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
												LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown, gray and reddish brown, medium stiff to stiff											
		5.0	638			18	0-2-3 N=5		21.5				
						18	3-4-5 N=9		16.8				
						18	4-8-8 N=16		19.7	34-17-17			
						18	12-12-13 N=25		10.7				
2		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff											
		13.5	629.5			18	10-15-14 N=29		6.3				
						2	50/2"		6.9				
		SHALE± , gray, hard											
		18.7	624.3			2	50/2"		6.6				
		Boring Terminated at 18.7 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-5

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2763° Longitude: -95.9144° Depth (Ft.) _____ Elevation: 686 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown and reddish brown, very stiff	2.0	684	X	18	3-7-17 N=24		18.6			
2		SANDSTONE+ , olive brown and gray, cemented to well cemented	5	684	X	4	50/4"		9.9			
			5	684	X	2	50/2"		7.8			
			5	684	X	2	50/2"		8.5			
			10	684	X	0	50/0"					
			15	684	X	3	50/3"		6.6			
		SHALE+ , gray, moderately hard to hard	13.5	672.5	X	1	50/1"		7.2			
		Boring Terminated at 18.6 Feet	18.6	667.4								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-6

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2764° Longitude: -95.9132° Depth (Ft.) _____ Elevation: 692 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown, reddish brown and gray, medium stiff to very stiff										
			18	3-3-2 N=5	18.0	30-21-9						
		3.5	688.5		18	3-7-15 N=22	20.9					
2		SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, hard										
			18	13-21-24 N=45	8.8							
		5.0	687		6	50/6"	7.5					
			5	50/5"	10.0							
		13.5	678.5		3	50/3"	7.9					
	15											
			18.6	673.4	Boring Terminated at 18.6 Feet		1	50/1"	5.7			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-7

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2763° Longitude: -95.9116° Depth (Ft.) _____ Elevation: 675 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , olive and reddish brown, medium stiff	2.0			18	2-1-4 N=5		26.4			
2		SHALE+ , olive brown and gray, soft to hard	673			18	17-24-31 N=55		10.8			28-19-9
					11	30-50/5"		8.9				
			5		18	21-25-31 N=56		9.6				
					8	37-50/2"		24.8				
					3	50/3"		10.4				
		SHALE+ , gray, hard	18.5 18.6			1	50/1"		8.4			
		Boring Terminated at 18.6 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p> <hr/> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>
	<p>Logged by WA</p> <p>Boring Started 11-19-2024</p> <p>Boring Completed 11-19-2024</p>

Boring Log No. B-8

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2763° Longitude: -95.9103° Depth (Ft.) _____ Elevation: 666 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sand, brown and reddish brown, very stiff	2.0			18	0-5-19 N=24		7.0			84
2		SHALE+ , brown and olive brown, soft to hard	664			18	26-40-45 N=85		7.1			
			5			3	50/3"		15.7			
			5			4	50/4"		8.0			
			10			2	50/2"		7.9			
			15			4	50/4"		8.2			
		18.5 SHALE+ , gray, hard Boring Terminated at 18.6 Feet	647.5 647.4			1	50/1"		4.2			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-19-2024</p> <p>Boring Completed 11-19-2024</p>

Boring Log No. B-9

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2762° Longitude: -95.9088° Depth (Ft.) _____ Elevation: 651 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
1	Approximately 6" Topsoil LEAN CLAY (CL) , olive brown and reddish brown, soft	2.0	649		X	18	0-0-4 N=4		25.5		32-21-11			
		3.5	647.5		X	18	10-11-14 N=25		12.1					
2	SHALEY LEAN CLAY (CL) , brown and olive brown, very stiff	SHALE+, brown and olive brown, soft	5		X	10	41-50/4"		8.8					
					X	5	50/5"		11.7					
				8.5	642.5		X	3	50/3"		10.6			
							X	2	50/2"		9.6			
				18.5	632.5		X	3	50/3"		7.1			
		18.8	632.2	Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-19-2024</p> <p>Boring Completed 11-19-2024</p>

Boring Log No. B-11

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2763° Longitude: -95.9062° Depth (Ft.) _____ Elevation: 633 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed SILTY LEAN CLAY (CL-ML) , brown, reddish brown and gray, stiff to very stiff										
			3.5	629.5	8	2-4-5 N=9	12.5					
			3.5	629.5	18	3-5-9 N=14	8.3	25-18-7				
			3.5	629.5	18	10-15-15 N=30	8.7					
2		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff	5									
			8.5	624.5	18	11-9-10 N=19	8.8					
			8.5	624.5	8	30-50/2"	11.2					
			8.5	624.5	3	50/3"	6.9					
			15									
			18.7	614.3	2	50/2"	6.5					
		Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-12

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9144° Depth (Ft.) _____ Elevation: 670 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Dozed LEAN CLAY (CL) , with silt lenses, very stiff to hard	3.0			18	2-7-15 N=22		9.5		28-20-8		
2		SHALE+ , sandstone seams, olive brown and gray, soft to moderately hard	667				17-30-50/4"		8.1				
							50/6"		5.3				
			5					50/4"		8.4			
			10					30-50/3"		9.9			
			15					50/2"		6.6			
			18.8				50/3"		6.3				
Boring Terminated at 18.8 Feet													

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-13

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9132° Depth (Ft.) _____ Elevation: 667 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown, olive brown and reddish brown, soft	2.0			18	0-0-2 N=2		22.0			
		SHALEY LEAN CLAY (CL) , brown, reddish brown and olive brown, very stiff	665			18	8-11-18 N=29		13.5			
			5			18	11-15-11 N=26		11.5	32-18-14	93	
						18	8-11-15 N=26		13.4	31-19-12		
			8.5	658.5								
2		SHALE+ , olive brown and gray, soft to hard				11	25-50/5"		10.3			
						0	50/0"					
		19.3	647.7			10	20-50/4"		11.3			
		Boring Terminated at 19.3 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p> <hr/> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>
	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-14

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9117° Depth (Ft.) _____ Elevation: 657 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown and olive brown, soft										
			3.5	653.5	18	2-3-4 N=7	23.0					
			3.5	653.5	18	4-6-12 N=18	15.5					
			8.5	648.5	18	11-23-29 N=52	10.0					
2		SHALE+ , brown, soft										
			13.5	643.5	12	19-50/6"	10.9					
			13.5	643.5	6	50/6"	10.0					96
			18.6	638.4	2	50/2"	6.6					
		Boring Terminated at 18.6 Feet			1	50/1"						

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-19-2024</p> <p>Boring Completed 11-19-2024</p>

Boring Log No. B-15

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2752° Longitude: -95.9104° Depth (Ft.) _____ Elevation: 652 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown and olive brown, medium stiff	2.0			18	1-3-3 N=6		21.1			
2		SHALE+ , brown, soft to moderately hard	5			18	14-21-50/5"		9.7			
						10	12-50/4"		10.4			
						4	50/4"		8.4			
						3	50/4"		7.9			
						10						
		13.0	639	Auger Refusal on sandstone at 13 Feet								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-17-2024</p> <p>Boring Completed 11-17-2024</p>

Boring Log No. B-16

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9088° Depth (Ft.) _____ Elevation: 642 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , dark brown, medium stiff	2.0			18	0-3-3 N=6		21.6			
2		SHALE+ , olive brown, soft to hard	640			18	10-20-35 N=55		10.5			
			5			9	26-50/3"		8.4			
			5			1	50/1"		6.5			
			10			2	50/2"		7.9			
			15			6	50/6"		9.5			
		18.5 _____ 623.5 18.8 SHALE+ , gray, moderately hard 623.2				4	50/4"		9.2			33-21-12
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-18

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2752° Longitude: -95.9062° Depth (Ft.) _____ Elevation: 627 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed SILTY LEAN CLAY (CL-ML) , brown, gray and reddish brown, soft to medium stiff										
			3.5	623.5	18	0-0-0 N=0		22.2	25-18-7			
			3.5	623.5	18	0-1-4 N=5		20.0				
			3.5	623.5	18	4-8-9 N=17		16.4				
2		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff to hard	5									
			5	618.5	18	11-16-29 N=45		13.4				
			8.5	618.5	3	50/3"		7.0				
			8.5	618.5	2	50/2"		7.1				
		SHALE+ , gray, moderately hard to hard	10									
			15									
			18.7									
		Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-19

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9144° Depth (Ft.) _____ Elevation: 652 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Dozed SILTY LEAN CLAY (CL-ML) , brown, reddish brown and gray, medium stiff	2.0	650	X	18	0-1-4 N=5		20.5		24-19-5		
			SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, hard			X	18	9-17-22 N=39		11.8			
					X	18	16-23-22 N=45		9.3				
					X	18	17-30-37 N=67		7.3				
2		SHALE+ , gray, moderately hard to hard	8.5	643.5	X	4	50/4"		7.9				
					X	3	50/3"		5.8				
		Boring Terminated at 18.6 Feet	18.6	633.4		1	50/1"		4.8				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-20

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9130° Depth (Ft.) _____ Elevation: 650 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown, reddish brown and gray, medium stiff	2.0			18	2-2-5 N=7		17.3			31-17-14	
		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, stiff to very stiff	648			18	7-7-7 N=14		14.2				92
			5			18	5-7-8 N=15		15.6				
							18	8-10-7 N=17		10.8			
2		SHALE+ , olive brown and gray, soft to hard	8.5			8	30-50/2"		11.4				
			10										
			15			8	38-50/2"		10.5				
		SHALE+ , gray, hard	18.5			1	50/1"		6.4				
		Boring Terminated at 18.6 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-13-2024</p> <p>Boring Completed 11-13-2024</p>

Boring Log No. B-21

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9117° Depth (Ft.) _____ Elevation: 646 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , reddish brown, medium stiff to stiff										
				18	2-2-3 N=5	20.2						
				18	3-4-10 N=14	18.5						
				18	15-17-17 N=34	10.3						
				12	18-18-20 N=38	9.9	35-17-18					
				15	17-15-15 N=30	11.5						
2												
		SHALE± , olive brown, hard		8	25-50/2"	13.4						
		SHALE± , gray, moderately hard		3	50/3"	6.5						
Boring Terminated at 18.8 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-22

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9103° Depth (Ft.) _____ Elevation: 641 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed SHALEY LEAN CLAY (CL) , olive brown, hard										
			18	14-17-17 N=34	14.2							
		3.5	18	15-22-28 N=50	8.5	31-21-10						
2		SHALEY LEAN CLAY (CL) , olive brown and brown, hard	5.0	637.5								
		SHALE+ , olive and reddish brown, soft to moderately hard	5.0	636	5	6	50/6"	10.8	11.9			
					10	9	28-50/3"		13.5			
					15	5	50/5"		8.3			
		18.5	622.5	18.7	2	50/2"	6.2					
		Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-23

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9089° Depth (Ft.) _____ Elevation: 636 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil										
		LEAN TO FAT CLAY (CL/CH) , reddish brown, very stiff	634		X	18	0-3-16 N=19		20.6			
2		SHALEY LEAN CLAY (CL) , brown and reddish brown, hard	632.5		X	18	16-22-22 N=44		10.8			
		SHALE+ , brown, soft	632.5	5	X	12	21-50/6"		11.2			
				5	X	6	50/6"		7.5		34-22-12	
				10	X	6	50/6"		8.2			
			15	X	5	50/5"		8.0			95	
			18.5		X	3	50/3"		6.5			
		SHALE+ , gray, moderately hard	617.2									
Boring Terminated at 18.8 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-19-2024</p> <p>Boring Completed 11-19-2024</p>

Boring Log No. B-24

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9074° Depth (Ft.) _____ Elevation: 630 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown, olive and reddish brown, stiff	2.0	628	X	18	0-2-8 N=10		23.8			
		SHALEY LEAN CLAY (CL) , olive brown, very stiff			X	18	12-12-12 N=24		16.7			94
					X	18	7-9-10 N=19		18.7			
					X	18	9-10-11 N=21		16.4			
					X	18	6-11-13 N=24		13.7			
					X	7	25-50/1"		14.7			
2		SHALE± , gray, hard	14.0	616								
		Boring Terminated at 18.6 Feet	18.6	611.4		1	50/1"		7.2			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-25

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2742° Longitude: -95.9063° Depth (Ft.) _____ Elevation: 626 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
1		Approximately 6" Topsoil SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff to hard	5		X	18	0-6-12 N=18		10.1			37-17-20		
							12-13-14 N=27		9.6					
							12-13-13 N=26		12.0					
							16-20-21 N=41		12.3					
2		SHALE+ , gray, soft to hard	10		X	11	25-50/5"		13.6					
							15		X			4	50/4"	8.4
													18.7	X
		Boring Terminated at 18.7 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-14-2024</p> <p>Boring Completed 11-14-2024</p>

Boring Log No. B-26

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2735° Longitude: -95.9131° Depth (Ft.) _____ Elevation: 649 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown and reddish brown, very stiff										
			3.5						16.6			
			645.5			18	2-7-11 N=18					
						18	9-12-15 N=27		15.8			
		SHALE± , brown, soft	5			18	14-15-19 N=34		8.4			
						6	50/6"		8.6			
						6	50/6"		9.1		28-19-9	
2			10			2	50/2"		10.2			
			13.5									
		SHALE± , gray, hard	15									
			18.5			0	50/0"					
		Boring Terminated at 18.5 Feet	630.5									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-28

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2730° Longitude: -95.9088° Depth (Ft.) _____ Elevation: 634 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown and reddish brown, medium stiff to stiff										
			3.5	630.5	18	1-2-3 N=5		21.0				
					18	4-5-7 N=12		17.2				
			5		18	5-5-7 N=12		16.7	35-17-18			
					18	8-19-27 N=46		12.4				
					10		18	17-15-12 N=27		12.7		99
2			13.5	620.5								
		SHALE± , gray, soft to hard			15		6	50/6"		9.8		
			18.7	615.3			2	50/2"		7.0		
		Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-29

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2731° Longitude: -95.9062° Depth (Ft.) _____ Elevation: 628 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		Percent Fines	
											LL-PL-PI			
1		Approximately 6" Dozed LEAN CLAY (CL) , reddish brown, soft	2.0		X	18	0-0-3 N=3		26.0					
			626		X	18	4-6-8 N=14		12.7			34-16-18		
				5		X	18	9-14-15 N=29		14.3			39-20-19	
						X	18	17-22-22 N=44		14.4				
					10		X	18	12-14-14 N=28		15.4			
2		SHALE± , brown, soft to moderately hard	13.5		X	5	50/5"		4.9					
			614.5											
		Boring Terminated at 18.8 Feet	18.8		X	0	50/4"							
			609.2											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-15-2024</p> <p>Boring Completed 11-15-2024</p>

Boring Log No. B-30

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2720° Longitude: -95.9137° Depth (Ft.) _____ Elevation: 659 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		Percent Fines
											LL-PL-PI		
1		Approximately 6" Dozed SILTY LEAN CLAY (CL-ML) , brown, reddish brown and gray, soft	2.0	657		18	0-0-4 N=4		20.1		26-19-7		
		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, very stiff to hard	5	18	15-19-25 N=44	11.8		18	11-12-11 N=23	12.7	26-16-10		
			5	18	8-9-11 N=20	12.0							
			10	18	9-14-16 N=30	9.7							
		2		SHALE+ , olive brown and gray, soft to moderately hard	13.5	645.5	15	9	40-50/3"		9.2		
18.8	640.2				3	50/3"	8.6						
		Boring Terminated at 18.8 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-12-2024</p> <p>Boring Completed 11-12-2024</p>

Boring Log No. B-31

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2718° Longitude: -95.9121° Depth (Ft.) _____ Elevation: 641 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		Percent Fines
											LL-PL-PI		
1		Approximately 6" Dozed SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, stiff to hard	5		X	18	4-15-18 N=33		27.3			29-17-12	
							15-16-22 N=38		10.3				
							12-13-12 N=25		12.6				
							10-12-13 N=25		12.6				
							7-6-4 N=10		14.4				
							3-6-8 N=14		16.4				
2		18.5 SHALE+ , olive brown and gray, soft to moderately hard 19.3 Boring Terminated at 19.3 Feet	18.5 622.5 19.3 621.7		X	8	30-50/3"		12.0				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-12-2024</p> <p>Boring Completed 11-12-2024</p>

Boring Log No. B-32

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2717° Longitude: -95.9106° Depth (Ft.) _____ Elevation: 636 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
1		Approximately 6" Dozed LEAN CLAY (CL) , brown, olive brown and gray, very stiff	2.0			18	0-4-13 N=17		14.0		30-18-12			
					634			18	13-15-17 N=32		11.7			
					5			18	9-12-10 N=22		12.6		91	
					5			18	10-11-12 N=23		12.9			
					10			18	8-11-12 N=23		12.0			
		2		SHALE+ , olive brown and gray, soft	13.5			12	36-50/6"		14.1			
15														
		Boring Terminated at 18.9 Feet	18.9				50/5"		7.4					

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-11-2024</p> <p>Boring Completed 11-11-2024</p>

Boring Log No. B-33

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2704° Longitude: -95.9192° Depth (Ft.) _____ Elevation: 699 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown, reddish brown and olive brown, very stiff to hard										
			18	7-8-9 N=17	9.7	35-20-15						
			18	10-14-17 N=31	7.1							
		3.5	695.5									
2		SANDSTONE+ , olive brown and brown, poorly cemented										
			18	13-30-40 N=70	5.5							
			1	50/1"	12.7							
		5.0	694									
			9	38-50/3"	9.7							
		8.5	690.5									
		SHALE+ , sandstone seams, gray, soft to hard										
			3	50/3"	8.8							
			2	50/2"	8.3							
		18.7	680.3									
Boring Terminated at 18.7 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-34

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2704° Longitude: -95.9175° Depth (Ft.) _____ Elevation: 699 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1	Approximately 6" Topsoil SILTY LEAN CLAY (CL-ML) , brown and olive brown, very stiff		2.0		X	18	7-8-9 N=17		6.2		29-22-7	
			697		X	18	14-27-38 N=65		5.0			
2	SANDSTONE+ , olive brown and brown, poorly cemented to cemented		5		X	11	42-50/5"		3.6			
					X	3	50/3"		5.8			
			8.5		X	2	50/2"		8.3			
					X	1	50/1"		9.0			
			690.5									
	SANDSTONE+ , brown, well cemented		10									
	SANDSTONE+ , gray, well cemented		15									
	SANDSTONE+ , gray, well cemented		18.5									
	Boring Terminated at 18.6 Feet		18.6						8.0			
			680.5									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-35

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2704° Longitude: -95.9161° Depth (Ft.) _____ Elevation: 685 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
2		Approximately 6" Dozed SANDSTONE+ , olive brown, poorly cemented to cemented			X	16	7-31-50/2"		11.7			
					X	5	50/5"		9.8			
					X	3	50/3"		5.3			
			5		X	0	50/0"		8.1			
					X	3	50/3"		7.0			
					X	3	50/3"		6.0			
			15		X	3	50/3"		6.0			
		13.5 _____ 671.5										
		SANDSTONE+ , gray, cemented										
		18.8 _____ 666.2										
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 11-07-2024</p> <p>Boring Completed 11-07-2024</p>

Boring Log No. B-36

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2707° Longitude: 95.9143° Depth (Ft.) _____ Elevation: 683 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed CLAYEY SAND (SC) , brown and olive brown, dense				18	3-10-23 N=33		15.1			
			2.5				8	27-50/2"		12.3		
							4	50/4"		8.1		
			5				1	50/1"		8.1		
							3	50/3"		7.2		
							4	50/4"		10.3		
2		SANDSTONE+ , brown and olive brown, cemented to well cemented					5	50/5"		6.6		
			18.5									
			18.9									
		SHALE+ , gray, soft	664.5 664.1									
		Boring Terminated at 18.9 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>
	<p>Logged by WA</p> <p>Boring Started 11-11-2024</p> <p>Boring Completed 11-11-2024</p>

Boring Log No. B-37

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9130° Depth (Ft.) _____ Elevation: 683 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed LEAN CLAY (CL) , brown, olive brown and gray, medium stiff	2.0			18	2-1-4 N=5		9.4		28-18-10	
2		SANDSTONE+ , brown and olive brown, cemented to well cemented	681			6	50/6"		10.8			
			5			3	50/3"		4.0			
			5			2	50/3"		5.2			
			10			12	27-50/6"		9.4			
			15			2	50/2"		7.7			
		18.5 SHALE+ , gray, hard 18.7 Boring Terminated at 18.7 Feet	664.5 664.3			2	50/2"		6.2			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-11-2024</p> <p>Boring Completed 11-11-2024</p>

Boring Log No. B-38

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9115° Depth (Ft.) _____ Elevation: 641 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil SHALEY LEAN CLAY (CL) , brown and olive brown, very stiff to hard	5		X	18	7-17-22 N=39		8.5			43-18-25
							17-17-17 N=34		9.9			
							11-12-11 N=23		15.0			
							11-13-17 N=30		15.2			
							12-23-36 N=59		12.8			
2		SHALE+ , olive brown and gray, soft	15		X	5	50/5"		13.0			
							50/6"		10.1			
		Boring Terminated at 19 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-11-2024</p> <p>Boring Completed 11-11-2024</p>

Boring Log No. B-39

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9098° Depth (Ft.) _____ Elevation: 641 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, very stiff to hard	5	5	X	18	7-8-9 N=17	11.4	11.4	36-16-20			
							9-10-11 N=21						12.0
							8-13-18 N=31						12.9
							20-27-28 N=55						8.8
2		SHALE± , brown, olive brown and gray, soft	10	X	12	20-50/6"	14.5	14.5					
						50/6"					8.7		
						50/2"					6.8		
		Boring Terminated at 18.7 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by WA</p> <p>Boring Started 11-11-2024</p> <p>Boring Completed 11-11-2024</p>

Boring Log No. B-40

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9192° Depth (Ft.) _____ Elevation: 696 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sand, brown, olive brown and reddish brown, very stiff										
		3.5 _____ 692.5			X	18	5-7-9 N=16		7.3			
					X	18	8-12-14 N=26		6.5		31-19-12	
		SANDSTONE+ , brown and olive brown, poorly cemented to cemented			X	10	30-50/4"		8.0			
			5		X	6	50/6"		8.2			
					X	3	50/3"		8.7			
2					X	2	50/2"		13.5			
		13.5 _____ 682.5										
					X	2	50/2"		7.6			
		18.5 _____ 677.5 18.7 _____ 677.3										
		SANDSTONE+ , gray, well cemented Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-41

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9176° Depth (Ft.) _____ Elevation: 699 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sand, brown and olive brown, stiff to very stiff										
			18	4-5-7 N=12	5.2							
2			3.5	695.5							32-21-11	
		SANDSTONE+ , brown and olive brown, poorly cemented										
			18	11-11-13 N=24	7.8							
			5									
			18	14-15-16 N=31	7.1							
			18	13-15-20 N=35	13.3							
			8.5	690.5								
		SANDSTONE+ , brown, well cemented										
					2	50/2"	8.3					
			10									
			13.5	685.5								
		SANDSTONE+ , brown and olive brown, cemented										
					3	50/3"	9.4					
			15									
			18.5	680.5								
		SANDSTONE+ , gray, cemented	18.8	680.2								
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-42

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2695° Longitude: -95.9160° Depth (Ft.) _____ Elevation: 693 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
2		Approximately 6" Topsoil SANDSTONE+ , brown and olive brown, poorly cemented to cemented	5			10	8-12-18 N=30	5.0	5.6	4.8	6.8	
			10				50/3"	7.7				
		Auger Refusal on sandstone at 10 Feet	10									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p> <p>Logged by Dayton S.</p> <p>Boring Started 10-28-2024</p> <p>Boring Completed 10-28-2024</p>
	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>

Boring Log No. B-43

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9144° Depth (Ft.) _____ Elevation: 698 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
2		Approximately 6" Topsoil SANDSTONE+ , olive brown, poorly cemented to cemented	5		11		4-7-10 N=17		7.4					
					8		7-9-13 N=22		7.6					
					13		9-12-17 N=29		11.6					
					12		9-19-32 N=51		7.9					
							10		50/4"		8.8			
			10											
					7		50/3"		7.5					
			15											
		18.6	679.4		5		50/1"		7.8					
Boring Terminated at 18.6 Feet														

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-28-2024</p> <p>Boring Completed 10-28-2024</p>

Boring Log No. B-44

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9130° Depth (Ft.) _____ Elevation: 679 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
2		Approximately 6" Dozed SANDSTONE+ , brown and olive brown, poorly cemented to cemented	5		X	10	13-39-50/3"		3.5			
					X	5	25-50/2"		3.3			
					X	6	50/4"		3.5			
					X	11	9-50/4"		4.2			
					X	9	50/6"		8.1			
					X	10	24-50/3"		7.0			
		13.5 _____ 665.5 SHALE+ , sandstone seams, gray, soft to moderately hard										
		14.5 _____ 664.5 Auger Refusal on hard shale at 14.5 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any). See Supporting Information for explanation of symbols and abbreviations. +Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p> <p>Notes</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p> <p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p> <p>Logged by Dayton S.</p> <p>Boring Started 10-28-2024</p> <p>Boring Completed 10-28-2024</p>
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Boring Log No. B-45

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9115° Depth (Ft.) _____ Elevation: 648 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed SHALEY LEAN CLAY (CL) , gray and olive brown, very stiff	5		X	12	6-7-8 N=15		7.9			
						13	8-10-13 N=23		9.8			
						11	4-13-11 N=24		7.2			
						12	13-15-12 N=27		7.3			
						13	6-10-14 N=24		10.2	35-18-17		
2		SHALE± , olive brown and gray, soft to hard	15		X	14	10-50/5"		10.1			
						8	50/2"		8.7			
		Boring Terminated at 18.7 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-28-2024</p> <p>Boring Completed 10-28-2024</p>

Boring Log No. B-46

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2696° Longitude: -95.9100° Depth (Ft.) _____ Elevation: 631 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits					
											LL-PL-PI	Percent Fines				
1		Approximately 6" Dozed SHALEY LEAN CLAY (CL) , brown, very stiff	5													
													10	7-7-9 N=16	7.0	33-17-16
													8	8-12-14 N=26	8.6	
													9	8-11-12 N=23	11.6	
12	6-14-14 N=28	9.0														
2		SHALE+ , brown and olive brown, soft	10													
													10	7-18-22 N=40	11.5	
													12	14-50/5"	13.0	
			15													
			18.9				50/5"		9.7							
Boring Terminated at 18.9 Feet																

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-28-2024</p> <p>Boring Completed 10-28-2024</p>

Boring Log No. B-48

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2688° Longitude: -95.9192° Depth (Ft.) _____ Elevation: 706 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
2	Dotted pattern	Approximately 6" Topsoil SANDSTONE+ , brown and olive brown, poorly cemented to well cemented	5		X	18	10-21-22 N=43		11.2				
					X	18	20-23-27 N=50		6.9				
					X	9	30-50/3"		5.1				
					X	1	50/1"						
					X	3	50/3"		9.3				
					X	3	50/3"		8.8				
		X	2	50/2"		11.3							
		18.7 _____ 687.3											
Boring Terminated at 18.7 Feet													

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p> <p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p> <p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-49

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2688° Longitude: -95.9176° Depth (Ft.) _____ Elevation: 702 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , with sandstone seams, brown and olive brown, medium dense to dense										
				10	7-12-12 N=24	6.0						
				8	7-12-21 N=33	7.3	29-18-11					
		3.5	698.5									
2		SANDSTONE± , brown and reddish brown, poorly cemented to cemented										
			5	12	15-22-46 N=68	7.5						
			12	30-50/5"	9.2							
				9	50/6"	10.4						
		8.5	693.5									
		SHALE± , sandstone seams, brown and olive brown, soft to hard										
			10									
			15	10	27-50/1"	9.6						
			18.5									
		SHALE± , gray, hard Boring Terminated at 18.6 Feet	18.6	683.5								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-25-2024</p> <p>Boring Completed 10-25-2024</p>

Boring Log No. B-50

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2688° Longitude: -95.9161° Depth (Ft.) _____ Elevation: 704 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1	Approximately 6" Topsoil CLAYEY SAND (SC) , with sandstone seams, brown and olive brown, medium dense		3.5		8		7-8-9 N=17		5.8				
			700.5		10		9-11-12 N=23		5.8				
					10		50/5"		3.2				
			5		7		48-50/1"		4.9				
					5		5		50/5"		5.8		
2	SANDSTONE± , brown and olive brown, poorly cemented to well cemented		13.5		2		50/2		8.7				
			690.5										
					15								
		18.6	685.4		1		50/1"		10.1				
		Boring Terminated at 18.6 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-25-2024</p> <p>Boring Completed 10-25-2024</p>

Boring Log No. B-51

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2687° Longitude: -95.9144° Depth (Ft.) _____ Elevation: 694 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Dozed CLAYEY SAND (SC) , brown, medium dense to dense	4.0			8	5-4-6 N=10		5.6			
2		SHALE+ , sandstone seams, brown and olive brown, soft to moderately hard	5			7	7-14-21 N=35		9.0			
			10			10	21-50/4"		8.7			
			15			5	50/5"		5.5			
			20			8	50/4"		6.2			
			25			6	50/5"		6.9			
		SHALE+ , sandstone seams, brown and gray, hard	18.5			8	50/2"		7.9			
		Boring Terminated at 18.7 Feet	18.7									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-25-2024</p> <p>Boring Completed 10-25-2024</p>

Boring Log No. B-52

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2687° Longitude: -95.9130° Depth (Ft.) _____ Elevation: 658 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
2		Approximately 6" Topsoil SANDSTONE+ , brown, poorly cemented to well cemented	5		X	14	7-12-21 N=33		7.5				
					X	14	7-20-25 N=45						
					X	10	8-50/4"		3.6				
					X	1	50/1"						
					X	1	50/1"		4.3				
			10										
			15										
				X	1	50/1"		6.6					
		18.5 _____ 639.5 18.6 _____ 639.4			X	1	50/1"		6.6				
		Boring Terminated at 18.6 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-25-2024</p> <p>Boring Completed 10-25-2024</p>

Boring Log No. B-53

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2687° Longitude: -95.9115° Depth (Ft.) _____ Elevation: 636 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits				
											LL-PL-PI	Percent Fines			
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sandstone seams, brown and olive brown, stiff to very stiff	5	5.0	631	8	4-7-8 N=15		9.9			36-19-17			
													9	4-6-8 N=14	9.5
													12	7-11-14 N=25	10.0
													10	7-30-42 N=72	7.1
2		SANDSTONE+ , shale seams, brown and olive brown, poorly cemented to cemented	10	18.8	617.2	11	28-50/5"		7.5						
												9	40-50/3"	9.0	
												4	50/4"	9.3	
		Boring Terminated at 18.8 Feet													

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-54

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2687° Longitude: -95.9100° Depth (Ft.) _____ Elevation: 631 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown and olive brown, very stiff											
			3.5	627.5	10	8-8-9 N=17		11.6					
					12	7-8-9 N=17		12.1		44-19-25			
			LEAN CLAY (CL) , brown, gray and reddish brown, stiff		5	10	7-6-6 N=12		12.1				
					11	4-4-6 N=10		25.1		34-17-17			
					10	12	4-6-7 N=13		17.2				
			15	11	6-13-15 N=28		17.2						
2		SANDSTONE+ , olive brown and gray, cemented Boring Terminated at 18.8 Feet	18.5 18.8	612.5 612.2	4	50/4"		12.8					

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-55

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2687° Longitude: -95.9084° Depth (Ft.) _____ Elevation: 626 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense to dense										
			3.5	622.5	3	7-13-16 N=29	9.8					
			6	8-14-17 N=31	3.9							
			10	8-14-18 N=32	11.5	48-18-30						
			4	8-14-16 N=30	10.3							
2		FAT CLAY (CH) , olive brown and gray, stiff										
			8.5	617.5	10	9-4-4 N=8	22.2					
			13.5	612.5	13	9-28-24 N=52	7.1					
		SHALE+ , gray and dark gray, soft to moderately hard										
			18.8	607.2	4	50/4"	13.8					
Boring Terminated at 18.8 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-56

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2677° Longitude: -95.9149° Depth (Ft.) _____ Elevation: 690 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense										
			3.5			4	4-6-7 N=13		4.4			
						5	6-7-12 N=19		4.0			
			5			3	50/3"		13.2			
						3	50/3"		5.5			
						2	50/2"		7.3			
2		SANDSTONE+ , brown, cemented to well cemented				1	50/1"		9.3			
						3	50/3"		8.7			
			18.8									
		Boring Terminated at 18.8 Feet	671.2									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-57

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2677° Longitude: -95.9136° Depth (Ft.) _____ Elevation: 680 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense	2.0			5	5-7-12 N=19		5.8			
2		SANDSTONE+ , brown and olive brown, poorly cemented to cemented	678			4	12-22-38 N=60		5.1			
					9	36-50/3"		4.1				
			5		11	38-50/5"		4.1				
					10	31-50/4"		6.7				
					15		4	50/4"		7.1		
		18.5 18.7 SANDSTONE+ , gray, well cemented Boring Terminated at 18.7 Feet	661.5 661.3			2	50/2"		7.0			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-58

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2677° Longitude: -95.9123° Depth (Ft.) _____ Elevation: 652 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1	Approximately 6" Topsoil CLAYEY SAND (SC) , brown, medium dense to dense		5.0		X	6	6-10-12 N=22		8.5				
					X	4	10-16-15 N=31		7.6				
					X	4	16-20-18 N=38		6.7				
					X	7	24-25-29 N=54		6.6				
2	SANDSTONE+ , brown and olive brown, poorly cemented to cemented		647	5									
					X	4	10-14-16 N=30		9.0				
					X	7	11-20-31 N=51		10.8				
					X	10	4-50/4"		9.4				
		19.3	632.7	Boring Terminated at 19.3 Feet									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p> <p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>
	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-59

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2676° Longitude: -95.9107° Depth (Ft.) _____ Elevation: 633 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense	5			2	6-6-7 N=13		6.2			
						1	9-10-10 N=20		8.3			
						5	9-11-10 N=21		8.5			
						6	10-13-14 N=27		8.1			
						8	4-8-11 N=19		13.6			
						10	12-24-42 N=66		15.0			
2		SANDSTONE+ , shale seams, brown, gray and olive brown, poorly cemented to cemented	15			10	34-50/4"		12.7			
		Boring Terminated at 19.3 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-60

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2675° Longitude: -95.9086° Depth (Ft.) _____ Elevation: 631 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown, medium dense										
			6	5-6-7 N=13	7.0							
			10	4-8-9 N=17	9.1							
			5	3-7-10 N=17	11.6							
			4	12-10-16 N=26	11.1							
		SHALEY FAT CLAY (CH) , brown, trace olive brown, very stiff	8.5	622.5	10	8-10-12 N=22	24.3	51-25-26				
		SHALE± , gray, soft to moderately hard	14.5	616.5	15	8-12-50/5"	16.8					
2			18.8	612.2	4	50/4"	8.1					
Boring Terminated at 18.8 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-61

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9150° Depth (Ft.) _____ Elevation: 692 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and reddish brown, medium dense	2.0 690		X	18	7-11-17 N=28		6.6			
2		SANDSTONE+ , brown and reddish brown, poorly cemented to cemented	3.5 688.5		X	10	23-50/4"		10.1			
		SANDSTONE+ , brown and olive brown, cemented		5	X	4	50/4"		3.9			
				5	X	3	50/3"		4.1			
					X	3	50/3"		8.1			
					X	2	50/2"		6.4			
		SANDSTONE+ , brown, cemented	18.5 18.8 673.5 673.2		X	3	50/3"		11.8			
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-62

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9135° Depth (Ft.) _____ Elevation: 677 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense to dense	5			8	6-9-10 N=19		8.9			
			8.5			4	9-11-14 N=25		8.5			
			668.5			8	7-19-12 N=31		7.9			
			10			12	14-14-16 N=30		8.4			
2		SANDSTONE+ , brown and reddish brown, poorly cemented	10			7	6-16-18 N=34		8.2			
			13.5									
			663.5			12	7-13-15 N=28		11.8			
1		SHALEY LEAN CLAY (CL) , brown, gray and reddish brown, stiff to very stiff	15			12	6-6-7 N=13		16.7			
			20.0									
			657									
		Boring Terminated at 20 Feet	20									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-63

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9122° Depth (Ft.) _____ Elevation: 666 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense to dense	5	X	5	5-9-10 N=19		10.1				
			6	X	6	10-10-12 N=22		9.6				
			4	X	4	9-11-13 N=24		7.6				
			5	X	5	14-15-16 N=31		8.7				
		8.5	657.5									
		SHALEY LEAN CLAY (CL) , brown, reddish brown and olive brown, very stiff	10	X	7	12-13-16 N=29		11.0				
		15	X	8	7-10-11 N=21		10.9					
18.5		647.5										
		SHALEY LEAN CLAY (CL) , brown, olive brown and gray, hard	20	X	11	8-18-31 N=49		13.8				
20.0		646										
		Boring Terminated at 20 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p> <p>Logged by Dayton S.</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>
	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>

Boring Log No. B-64

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2667° Longitude: -95.9106° Depth (Ft.) _____ Elevation: 648 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1	Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense	3.5	5			4	7-7-8 N=15		5.9			
	SHALEY LEAN CLAY (CL) , brown, olive brown and gray, very stiff to hard	644.5				4	7-7-9 N=16		6.3			
						8	14-17-21 N=38		9.0			
						10	16-21-20 N=41		10.3			
						12	9-14-16 N=30		10.1			
						11	8-16-21 N=37		8.7			
2	SHALE+ , brown, reddish brown and gray, soft	634.5	15			10	21-50/6"		12.3			
	Boring Terminated at 19.5 Feet	628.5										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>
<p>Notes</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p> <p>Logged by Dayton S.</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>
	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>

Boring Log No. B-65

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2668° Longitude: -95.9091° Depth (Ft.) _____ Elevation: 636 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil CLAYEY SAND (SC) , brown and olive brown, medium dense to dense	5		X	4	7-8-11 N=19		7.9			
						5	14-16-16 N=32		7.6			
						8	16-16-18 N=34		12.3			
						10	12-13-14 N=27		12.3			
			8.5	627.5								
		SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, very stiff	10		X	10	7-11-19 N=30		12.7		38-19-19	
			13.5	622.5								
2		SHALE± , gray and dark gray, soft	15		X	12	17-50/6"		9.8			
						7	50/5"		9.2			
		Boring Terminated at 18.9 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-66

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2667° Longitude: -95.9073° Depth (Ft.) _____ Elevation: 632 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil SHALEY LEAN CLAY (CL) , brown, olive brown and gray, very stiff										
				4	10-10-12 N=22	10.7						
2			3.5	628.5							35-21-14	
		SHALE± , brown, olive brown and gray, soft			6	8-12-14 N=26	9.7					
				6	12-17-28 N=45	6.4						
			5		10	33-28-32 N=60	5.9					
					11	12-50/5"	11.4					
					11	17-50/4"	7.1					
					1	50/1"	7.3					
		Boring Terminated at 18.6 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller Wes</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by Dayton S.</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-67

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2664° Longitude: -95.9059° Depth (Ft.) _____ Elevation: 621 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1	Approximately 6" Dozed LEAN CLAY (CL) , brown, olive brown and gray, medium stiff 1.5 _____ 619.5 2.0 _____ 619				X	18	2-4-27 N=31		17.9				
2	SHALEY LEAN CLAY (CL) , brown, olive brown and gray, very stiff SHALE+ , sandstone seams, brown, olive brown and gray, soft to hard 8.0 _____ 613		5		X	6	50/6"		8.1				
				X	6	50/6"		9.7					
				X	2	50/2"		8.6					
		Auger Refusal on hard shale at 8 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 11-07-2024</p> <p>Boring Completed 11-07-2024</p>

Boring Log No. B-68

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2657° Longitude: -95.9150° Depth (Ft.) _____ Elevation: 697 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
2		Approximately 6" Topsoil SANDSTONE+ , brown and olive brown, poorly cemented	5		X	18	13-12-12 N=24		4.9					
					X	18	11-11-10 N=21		5.5					
					X	18	7-13-12 N=25		11.2					
		6.0		691	X	18	13-17-50/6"		13.6					
			SANDSTONE+ , reddish brown, cemented to well cemented				X	1	50/1"		5.8			
					10									
			15											
			18.7											
		678.3			X	2	50/2"		10.3					
		Boring Terminated at 18.7 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-69

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2656° Longitude: -95.9135° Depth (Ft.) _____ Elevation: 671 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1	Approximately 6" Topsoil											
	CLAYEY SAND (SC) , brown and olive brown, medium stiff	2.0	669			18	3-6-7 N=13		9.0			
	SHALEY LEAN CLAY (CL) , brown and olive brown, very stiff											
	SHALE± , brown, olive brown and gray, soft	3.5	667.5			18	10-11-12 N=23		8.5			34-19-15
2	SHALE±, gray, soft					5	12-20-25 N=45		9.3			
							13-36-29 N=65		8.7			
						10	18-29-50/6"		11.5			
						15	50/5"		10.7			
		18.9	652.1			5	50/5"		6.7			
Boring Terminated at 18.9 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-71

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2657° Longitude: -95.9107° Depth (Ft.) _____ Elevation: 629 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown, reddish brown and gray, stiff to very stiff	5		X	18	5-7-7 N=14		12.0			37-17-20
							3-4-4 N=8		10.1			
							4-7-7 N=14		15.2			
							7-8-8 N=16		16.9			
							4-8-8 N=16		11.0			
							10-10-10 N=20		13.3			
2		SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, very stiff	15		X	18	10-10-10 N=20		13.3			
							27-50/6"		13.7			
		Boring Terminated at 19.5 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-73

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2647° Longitude: -95.9150° Depth (Ft.) _____ Elevation: 672 (Ft.) +/-	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sandstone seams, brown and olive brown, medium stiff to very stiff	5		X	18	7-13-10 N=23		6.8				
							6-5-3 N=8		9.3				
							2-3-2 N=5		15.9				
							4-3-3 N=6		16.5				
							6-7-6 N=13		9.5				
2		SANDSTONE+ , brown and olive brown, cemented	15		X	5	50/5"		11.8				
							3		50/3"				9.8
									Boring Terminated at 18.8 Feet				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-24-2024</p> <p>Boring Completed 10-24-2024</p>

Boring Log No. B-74

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2647° Longitude: -95.9136° Depth (Ft.) _____ Elevation: 654 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits			
											LL-PL-PI	Percent Fines		
1		Approximately 6" Topsoil LEAN CLAY (CL) , with sandstone seams, brown, reddish brown and gray, stiff to very stiff	5		X	18	6-7-8 N=15		9.6					
							9-7-9 N=16		12.6					
							10-11-11 N=22		9.9					
							10-14-16 N=30		9.3					
2		SHALE+ , olive brown and gray, soft	10		X	18	11-18-21 N=39		10.4					
							15		X			9	36-50/3"	12.2
													5	X
		Boring Terminated at 18.9 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-75

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2647° Longitude: -95.9123° Depth (Ft.) _____ Elevation: 638 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil SANDY LEAN CLAY (CL) , brown, olive brown and reddish brown, stiff	5.0										
		LEAN CLAY (CL) , brown, gray and reddish brown, very stiff	633										
				5			18	5-5-6 N=11		10.8		32-21-11	
							18	6-6-5 N=11		10.7			62
							18	5-6-7 N=13		12.4			
							18	7-8-8 N=16		13.0			
			10			18	7-8-9 N=17		12.3				
			15			18	7-8-9 N=17		10.7				
2		SHALE+ , brown, olive brown and gray, soft	18.5 19.4			11	25-50/5"		13.1				
		Boring Terminated at 19.4 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-76

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2647° Longitude: -95.9108° Depth (Ft.) _____ Elevation: 632 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1	Approximately 6" Topsoil LEAN CLAY (CL) , with sand, brown and olive brown, stiff to very stiff		3.5		628.5	13	6-6-8 N=14		11.6			80
			5		628.5	18	13-9-9 N=18		11.1			
			5		628.5	18	8-12-13 N=25		10.4			
			5		628.5	18	13-13-13 N=26		15.2		38-17-21	
2	SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, very stiff		8.5		623.5							
			10		623.5	18	12-16-17 N=33		12.4			
			15		623.5	18	10-11-11 N=22		12.3			
			18.5		613.5							
			18.8		613.2	3	50/3"		7.5			
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Solid Flight Auger</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-77

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2647° Longitude: -95.9091° Depth (Ft.) _____ Elevation: 624 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		Approximately 6" Topsoil SHALEY LEAN CLAY (CL) , brown, olive brown and gray, very stiff										
			5	X	18	7-8-9 N=17		16.8				
			5	X	18	10-13-11 N=24		13.2		43-19-24		
			5	X	18	10-11-13 N=24		16.3			93	
			5	X	18	11-11-11 N=22		14.5				
	8.5	615.5										
2		SHALEY LEAN CLAY (CL) , brown, reddish brown and gray, very stiff										
			10	X	18	10-12-12 N=24		12.6				
			15	X	18	17-27-35 N=62		11.7				
	13.5	610.5										
		SHALE+ , brown, reddish brown and gray, soft										
		15	X	18	17-27-35 N=62		11.7					
	18.5	605.5										
		SHALE+ , with coal fragments, gray and dark gray, soft to hard										
		15	X	16	8-28-50/4"		23.3					
	19.8	604.2										
	Boring Terminated at 19.8 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by TC/WA</p> <p>Boring Started 10-23-2024</p> <p>Boring Completed 10-23-2024</p>

Boring Log No. B-79

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2651° Longitude: -95.9059° Depth (Ft.) _____ Elevation: 623 (Ft.) +/- _____	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (In.)	Field Test Results	Unconfined Compressive Strength (tsf)	Water Content (%)	Dry Unit Weight (pcf)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		Approximately 6" Topsoil LEAN CLAY (CL) , brown, olive brown and gray, soft to medium stiff				18	1-2-2 N=4		19.3		34-20-14		
2		2.5 _____ 620.5 SANDSTONE+ , brown and olive brown, cemented				12	6-50/6"		11.3				
						0	50/5"		12.4				
				5			4	50/4"		7.7			
		8.5 _____ 614.5 SANDSTONE+ , gray and olive brown, well cemented				1	50/1"		3.4				
		10.0 _____ 613 Auger Refusal on sandstone at 10 Feet	10										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p> <p>+Classification estimated from disturbed samples. Core samples and petrographic analysis may reveal other rock types.</p>	<p>Water Level Observations Not encountered while drilling Not encountered after drilling</p>	<p>Drill Rig CME550/ATV</p> <p>Hammer Type Automatic</p> <p>Driller TS</p>
<p>Notes</p>	<p>Advancement Method Hollowed Stem Auger</p> <p>Abandonment Method Boring backfilled with auger cuttings and bentonite chips upon completion.</p>	<p>Logged by</p> <p>Boring Started 11-07-2024</p> <p>Boring Completed 11-07-2024</p>

Boring Log No. B-101

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2783° Longitude: -95.9140° Northing: 471919 Easting: 2583311	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 693 (Ft.)									
1		TOPSOIL	1.0	692							
		FAT CLAY WITH SAND (CH), brown and tan, soft to stiff			18	0-0-3 N=3	26.0				
				18	4-6-9 N=15	17.7	56-15-41	83.4			
				12	6-20-50/2"	19.6					
2		SHALE, tan, moderately hard to hard	4.5	688.5							
				7	39-50/1"	8.9	35-15-20	80.9			
				15	8-15-50/3"	14.2					
		Auger Refusal at 13.7 Feet	13.7	679.3							
					2	50/2"		12.1			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MS</p> <p>Boring Started 06-17-2025</p> <p>Boring Completed 06-17-2025</p>

Boring Log No. B-102

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		Percent Fines						
		Latitude: 36.2771° Longitude: -95.9140° Northing: 471479 Easting: 2583325.695	Approximate Elevation: 691 (Ft.)								LL-PL-PI								
1		1.0 TOPSOIL 690		5			18	0-2-2 N=4		25.5	NP								
		2.5 SILTY SAND (SM), brown, loose 688.5																	
2		SANDSTONE, tan, poorly cemented to well cemented		10			5	10-32-50/2"		25.1									
														15			5	50/5"	20.6
														10			1	50/1"	24.2
18.5 Boring Terminated at 18.5 Feet 672.5		0			0	50/0"													

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 3.5' while drilling

Drill Rig
 CME 55 Track

 Hammer Type
 Automatic

 Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 MS

 Boring Started
 06-18-2025

 Boring Completed
 06-18-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Log No. B-103

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2774° Longitude: -95.9132°	Northing: 471590.464 Easting: 2583563.946								LL-PL-PI	Percent Fines
		Depth (Ft.)	Approximate Elevation: 690 (Ft.)									
1		1.0	689	<u>TOPSOIL</u>								
		2.5	687.5	<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, very stiff								
				<u>SANDSTONE</u> , brown and gray, poorly cemented to well cemented								
2				18		2-7-14 N=21			22.0	33-19-14	77.2	
				11		4-50/5"			16.3			
				3		50/3"			14.7			
				3		50/3"			8.1			
				2		50/2"			11.8			
				58.5		REC: 98% RQD: 69%		4353				
				60		REC: 100% RQD: 100%		4720				
				56.5		REC: 94% RQD: 63%		5444				
				60		REC: 100% RQD: 100%		5892				
		22.5	667.5	<u>SHALE</u> , gray								
		30.0	660	<i>Boring Terminated at 30 Feet</i>								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-13-2025</p> <p>Boring Completed 06-13-2025</p>

Boring Log No. B-105

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2762° Longitude: -95.9111° Northing: 471172.812 Easting: 2584192.389	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.) Approximate Elevation: 674 (Ft.)									
		1.0 TOPSOIL 673									
2		2.0 SHALEY LEAN CLAY WITH SAND (CL), brown and gray, hard 672									
		SHALE, brown and gray, soft to moderately hard									
			5								
			6								
			5								
			5								
			5								
			5								
			10								
			10								
	10										
	10										
	15										
	15										
	20										
	20										
	25										
	25										
	30										
	30										
		Boring Terminated at 30 Feet 644									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-12-2025</p> <p>Boring Completed 06-12-2025</p>

Boring Log No. B-106

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2756° Longitude: -95.9111° Northing: 470974.95 Easting: 2584196.647	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 662 (Ft.)									
1		<u>TOPSOIL</u>	1.0 661								
1		<u>SHALEY LEAN CLAY (CL)</u> , brown, very stiff to hard	3.5 658.5			18	1-6-15 N=21		19.8		
2		<u>SHALE</u> , brown and gray, moderately hard	5.0 657			3	7-11-22 N=33		11.0		
1		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, hard	8.5 653.5			18	50/3"		8.0		
1		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, hard				18	21-25-33 N=58		9.7	30-19-11	84.3
2		<u>SHALE</u> , brown and gray, moderately hard				3	50/3"		7.9		
2						58	REC: 97% RQD: 46%	1778			
2						55.5	REC: 93% RQD: 67%				
		20.0 642									
Boring Terminated at 20 Feet											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Dry to 10'

Drill Rig
 CME 750X ATV
 Hammer Type
 Automatic
 Driller
 PH

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Coring: 10' - 20'

Logged by
 JP
 Boring Started
 06-12-2025
 Boring Completed
 06-12-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Log No. B-107

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2758° Longitude: -95.9118° Northing: 471019.442 Easting: 2583964.453	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 663 (Ft.)									
1		<u>TOPSOIL</u>	1.0								
		<u>LEAN CLAY (CL)</u> , brown, stiff to very stiff	3.5			18	1-2-11 N=13		17.5		
2		<u>SHALE</u> , brown and gray, soft to moderately hard				18	5-9-13 N=22		14.4	32-16-16	97.7
				5		12	27-50/6"		8.5		
						12	23-50/6"		9.3		
						3	50/3"		7.3		
				10		60	REC: 100% RQD: 31%	1880			
			15		60	REC: 100% RQD: 86%	2924				
		20.0	643	20							

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-12-2025</p> <p>Boring Completed 06-12-2025</p>

Boring Log No. B-108A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2757° Longitude: -95.9126° Northing: 470984.779 Easting: 2583753.409	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 671 (Ft.)									
1		<u>TOPSOIL</u>	1.0 670								
		<u>LEAN CLAY (CL)</u> , brown to light brown, stiff	2.0 669			9	2-1-10 N=11		19.9		
		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown and gray, hard	5.0 666			15	6-21-37 N=58		9.7		
		<u>SHALE</u> , brown and gray, soft	5.0 666			18	16-45-47 N=92		9.3	31-20-11	75.0
2			5			5	50/5"		7.5		
			10			5	50/5"		7.2		
			15			50	REC: 100% RQD: 66%				
			20			60	REC: 100% RQD: 70%				
			25			60	REC: 100% RQD: 57%				
		30			60	REC: 100% RQD: 83%	6220				
		30.0 641			10	REC: 100% RQD: 58%					
<i>Boring Terminated at 30 Feet</i>											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Dry to 10'

Drill Rig
 CME 55 Track

Hammer Type
 Automatic

Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Coring: 10' - 30'

Logged by
 RD

Boring Started
 06-27-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Completed
 06-27-2025

Boring Log No. B-109

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2758° Longitude: -95.9132° Northing: 471015.057 Easting: 2583560.419	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.)	Approximate Elevation: 670 (Ft.)								
		1.0	669								
		2.0	668			9	2-2-3 N=5		16.7		
		5.0	665			12	7-13-22 N=35		12.8	26-19-7	58.5
2				5		16	9-13-16 N=29		12.2		
						7	17-50/1"		9.1		
		10.0	660	10		7	30-50/1"		8.1		
				15		48	REC: 100% RQD: 98%				
				20		60	REC: 100% RQD: 51%				
				25		60	REC: 100% RQD: 60%				
				30		72	REC: 100% RQD: 65%				
		30.0	640	30							
<i>Boring Terminated at 30 Feet</i>											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-27-2025</p> <p>Boring Completed 06-27-2025</p>

Boring Log No. B-111A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9122° Northing: 470851.699 Easting: 2583868.65	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.)	Approximate Elevation: 657 (Ft.)								
		1.0	656								
		2.0	655	X	17		2-5-8 N=13		17.1		
		5.5	651.5	X	13		18-31-35 N=66		12.7		
2		<u>SANDSTONE</u> , brown, poorly cemented to well cemented		X	10		5-13-18 N=31		14.0	32-16-16	86.9
				X	10		15-50/3"		9.6		
				X	9		17-34-41 N=75		11.9		
				X	2		16-50/1"		6.3		
				X	3		9-50/1"		4.5		
		Boring Terminated at 19.1 Feet									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Hammer Type
 Automatic

Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 MG

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Boring Started
 06-25-2025
 Boring Completed
 06-25-2025

Boring Log No. B-112

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2753° Longitude: -95.9111° Northing: 470843.617 Easting: 2584192.99	Depth (Ft.)								Approximate Elevation: 657 (Ft.)	LL-PL-PI	Percent Fines
1		TOPSOIL											
		1.0	656										
2		SANDY SHALEY LEAN CLAY (CL), light brown, very stiff		2.0	655		16	3-9-17 N=26		16.7	39-17-22	66.4	
		SHALE, light brown and gray, soft to moderately hard					12	27-50/6"		10.7			
							5	50/5"		12.1			
						5							
							5	50/5"		16.3			
						10							
							9	26-50/3"		16.5			
						15							
					4	50/4"		10.7					
				18.8									
		Boring Terminated at 18.8 Feet					3	50/3"		6.9			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MS</p> <p>Boring Started 06-16-2025</p> <p>Boring Completed 06-16-2025</p>

Boring Log No. B-113A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9132° Northing: 470653.741 Easting: 2583568.186	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 665 (Ft.)									
1		<u>TOPSOIL</u>	1.0 664								
		<u>LEAN CLAY (CL)</u> , brown, medium stiff	2.0 663		X	12	1-3-5 N=8		21.7		
		<u>SHALEY LEAN CLAY (CL)</u> , brown to reddish brown, very stiff to hard				X	8	6-8-16 N=24	17.2		
						X	7	7-10-13 N=23	12.9	31-18-13	89.8
						X	18	19-29-47 N=76	10.1		
2		<u>SHALE</u> , light brown and gray, soft to hard	8.5 656.5								
					X	11	16-50/5"		10.0		
											
			10 645.9								
					X	10	24-50/4"		9.2		
			15 645.9								
					X	7	25-50/1"		7.8		
		<i>Boring Terminated at 19.1 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-26-2025</p> <p>Boring Completed 06-26-2025</p>

Boring Log No. B-115A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9122° Northing: 470666.693 Easting: 2583870.468	Depth (Ft.)	Water Level Observations	Sample Type	Recovery ()	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 651 (Ft.)									
1	TOPSOIL		1.0	650							
	SHALEY LEAN CLAY (CL), reddish brown, very stiff to hard				10		5-7-10 N=17		16.1		
					13		7-12-24 N=36		12.3		
					13		6-8-12 N=20		12.0		
					15		5-7-11 N=18		11.7	32-16-16	90.1
					11		6-10-14 N=24		9.7		
2	SANDSTONE, gray, poorly cemented to cemented		14.5	636.5							
					13		7-26-50/4"		11.9		
			19.0	632			50/5"		7.4		
Boring Terminated at 19 Feet											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

 Hammer Type
 Automatic

 Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 MG

 Boring Started
 06-24-2025

 Boring Completed
 06-24-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Log No. B-116A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9117° Northing: 470654.892 Easting: 2584022.001	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.) Approximate Elevation: 649 (Ft.)									
		1.0 <u>TOPSOIL</u> 648									
		SHALEY LEAN CLAY (CL), brown, very stiff to hard									
		7	7-14-16 N=30	10.8							
		10	5-10-13 N=23	11.1			86.1				
		10	8-9-15 N=24	12.6							
		10	7-8-9 N=17	10.8	38-24-14						
			14	8-14-22 N=36	8.8						
			11	8-28-50/3"	10.0						
2		14.5 <u>SANDSTONE</u> , brown, cemented to well cemented 634.5	15								
		18.6 <u>Boring Terminated at 18.6 Feet</u> 630.4									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-24-2025</p> <p>Boring Completed 06-24-2025</p>

Boring Log No. B-117

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9111° Northing: 470664.924 Easting: 2584188.19	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.) Approximate Elevation: 649 (Ft.)									
		1.0 <u>TOPSOIL</u> 648									
		2.0 <u>LEAN CLAY (CL)</u> , reddish brown to brown, medium stiff 647	X	12	2-3-4 N=7		17.6				
		<u>SHALEY LEAN CLAY (CL)</u> , reddish brown to brown, very stiff to hard	X	10	3-7-14 N=21		13.8				
			X	14	5-17-22 N=39		14.5				
X	7	3-4-32 N=36		10.1	36-18-18	98.9					
2		9.0 <u>SANDSTONE</u> , gray, cemented to well cemented 640	X	10	14-44-50/4"		10.3				
		18.8 <u>Boring Terminated at 18.8 Feet</u> 630.2	X	5	27-50/2"		7.1				
			X	5	50/3"		7.0				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-23-2025</p> <p>Boring Completed 06-23-2025</p>

Boring Log No. B-118

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9105° Northing: 470672.849 Easting: 2584356.589	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 652 (Ft.)									
1	TOPSOIL		1.0 651								
	LEAN CLAY (CL), brown, stiff		2.0 650	X	12		4-5-8 N=13		18.7	32-20-12	97.1
	SHALEY LEAN CLAY (CL), brown, hard			X	12		15-18-33 N=51		11.5		
			5.0 647	X	14		4-18-36 N=54		12.7		
2	SANDSTONE, brown, poorly cemented to well cemented		5	X	8		17-50/5"		10.8		
			10	X	4		23-50/4"		8.9		
			15	X	4		16-50/1"		8.2		
			18.7 633.3	X	4		50/2"		6.5		
		<i>Boring Terminated at 18.7 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-25-2025</p> <p>Boring Completed 06-25-2025</p>

Boring Log No. B-119

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2744° Longitude: -95.9134° Northing: 470517.317 Easting: 2583527.896	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 660 (Ft.)									
1		<u>TOPSOIL</u>	1.0	659							
		<u>SHALEY LEAN CLAY (CL)</u> , gray, very stiff to hard			X	11	8-8-11 N=19		10.4		
					X	14	13-15-25 N=40		9.5	32-16-16	87.3
					X	15	7-18-24 N=42		8.5		
2		<u>SANDSTONE</u> , gray, cemented to well cemented	5.0	655							
					X	7	26-50/1"		8.2		
					X	10	9-24-50/1"		10.1		
					X	6	10-50/3"		6.7		
		<i>Boring Terminated at 18.6 Feet</i>	18.6	641.4							
					X	1	50/1"		5.1		

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-25-2025</p> <p>Boring Completed 06-25-2025</p>

Boring Log No. B-121A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2744° Longitude: -95.9119° Northing: 470526.282 Easting: 2583944.805	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Approximate Elevation: 650 (Ft.)										
	<u>TOPSOIL</u>		1.0								649	
1		SHALEY LEAN CLAY WITH SAND (CL), brown, stiff to hard			14		12-12-16 N=28		8.7			
					6		11-12-18 N=30		9.8			
					14		5-10-10 N=20		11.1			
					10		6-8-9 N=17		12.4	35-14-21	74.3	
					16		4-6-8 N=14		14.1			
			5									
			10									
2		SANDSTONE, brown, poorly cemented to well cemented			9		12-50/5"		12.1			
			15									
			18.6								631.4	
		Boring Terminated at 18.6 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-24-2025</p> <p>Boring Completed 06-24-2025</p>

Boring Log No. B-124A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2740° Longitude: -95.9110° Northing: 470385.841 Easting: 2584217.969	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 644 (Ft.)									
1		1.0 <u>TOPSOIL</u> 643									
		<u>SHALEY LEAN CLAY (CL)</u> , brown, hard			12	15-15-19 N=34		8.1	26-18-8	98.3	
				7	8-14-22 N=36		9.0				
2		5.0 639			14	7-13-18 N=31		8.2			
		<u>SANDSTONE</u> , brown and gray, cemented to well cemented			14	35-50/4"		11.3			
				10	40-50/1"		9.1				
				15	2	15-50/1"		5.3			
				18.7 625.3			2	50/2"		7.6	
		<i>Boring Terminated at 18.7 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-24-2025</p> <p>Boring Completed 06-24-2025</p>

Boring Log No. B-125A

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2741° Longitude: -95.9124° Northing: 470398.935 Easting: 2583826.52	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 647 (Ft.)									
1	TOPSOIL		1.0	646							
	SHALEY LEAN CLAY WITH SAND (CL), brown, stiff to hard				10	5-8-12 N=20		8.4			
					13	13-13-13 N=26		10.7			
				5		9	3-8-7 N=15		9.4	36-15-21	76.0
						15	29-33-41 N=74		9.3		
2	SANDSTONE, brown and gray, poorly cemented		8.5	638.5							
					11	12-50/5"		11.1			
					60	REC: 100% RQD: 59%					
			15		60	REC: 100% RQD: 70%	7736				
			20.0	627							
Boring Terminated at 20 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-26-2025</p> <p>Boring Completed 06-26-2025</p>

Boring Log No. B-126

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2762° Longitude: -95.9096° Northing: 471188.469 Easting: 2584619.95	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 665 (Ft.)									
1		<u>TOPSOIL</u>	1.0								
		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, very stiff to hard	3.5			18	2-6-14 N=20		18.1		
2		<u>SHALE</u> , brown and gray, soft to moderately hard				18	6-10-21 N=31		16.9	29-16-13	71.4
						6	50/6"		11.7		
			5			3	50/3"		7.9		
						5	50/5"		7.6		
			10			60	REC: 100% RQD: 82%				
			15			60	REC: 100% RQD: 71%	3614			
20			58.5	REC: 98% RQD: 93%	4918						
25			58	REC: 97% RQD: 97%	4224						
		30.0	635								
<i>Boring Terminated at 30 Feet</i>											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 750X ATV

Hammer Type
 Automatic

Driller
 PH

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Coring: 10' - 30'

Logged by
 JP

Boring Started
 06-11-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Completed
 06-11-2025

Boring Log No. B-127

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2762° Longitude: -95.9082°	Northing: 471201.984 Easting: 2585047.555								LL-PL-PI	Percent Fines
Depth (Ft.)		Approximate Elevation: 649 (Ft.)										
1	TOPSOIL	1.0	648									
	LEAN CLAY (CL), brown, soft	2.0	647				18	0-0-3 N=3		36.8		
	SHALEY LEAN CLAY WITH SAND (CL), light brown, hard	3.5	645.5				18	12-20-24 N=44		15.4	30-16-14	81.6
2	SHALE, light brown and gray, soft to hard						7	37-50/1"		9.1		
				5			6	50/6"		9.8		
							5	50/5"		9.8		
							3	50/3"		6.5		
							3	50/3"		5.9		
							3	50/3"		5.9		
		18.8	630.2	Boring Terminated at 18.8 Feet								

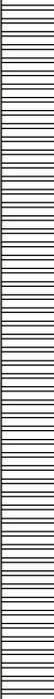
<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MS</p> <p>Boring Started 06-17-2025</p> <p>Boring Completed 06-17-2025</p>

Boring Log No. B-128

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2757° Longitude: -95.9074° Northing: 471034.446 Easting: 2585260.793	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 641 (Ft.)									
1		1.0 TOPSOIL 640									
		SHALEY LEAN CLAY WITH SAND (CL), light brown, stiff to hard									
			18	0-5-8 N=13	25.8						
			14	13-25-32 N=57	15.4						
2		5.0 636									
		SHALE, light brown and gray, moderately hard									
			18	18-42-50 N=92	15.0						
			5	50/3"	16.6		82.5				
			10								
			15								
		18.9 622.1									
		Boring Terminated at 18.9 Feet									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MS</p> <p>Boring Started 06-16-2025</p> <p>Boring Completed 06-16-2025</p>

Boring Log No. B-129

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2757° Longitude: -95.9082°	Northing: 471038.068 Easting: 2585029.476								LL-PL-PI	Percent Fines	
		Depth (Ft.)	Approximate Elevation: 651 (Ft.)										
1		1.0	650										
		1.5	649.5										
2		SHALE, light brown and gray, soft to hard		5	X	16	1-3-8 N=11	21.0	29-18-11	72.1			
	6	X	6	50/6"	12.5								
	7	X	11	35-50/5"	7.9								
	7	X	7	30-50/1"	9.1								
	7	X	7	40-50/1"	10.8								
	3	X	3	50/3"	7.5								
	3	X	3	50/3"	6.3								
			18.8	632.2									
			Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-16-2025</p> <p>Boring Completed 06-16-2025</p>

Boring Log No. B-130

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2758° Longitude: -95.9089° Northing: 471040.193 Easting: 2584828.446	Depth (Ft.)								Approximate Elevation: 658 (Ft.)	LL-PL-PI
1		<u>TOPSOIL</u>										
		<u>LEAN CLAY (CL)</u> , brown, soft	1.0	657	X		10	1-0-4 N=4		17.3		
		<u>SHALEY LEAN CLAY (CL)</u> , light brown, hard	2.0	656	X		18	10-12-24 N=36		13.1	30-18-12	88.8
2		<u>SHALE</u> , light brown to gray, soft to hard	3.5	654.5	X		9	38-50/3"		13.5		
					X		4	50/4"				
						X		5	50/3"		10.1	
						X		11	50/5"		7.5	
						X		3	50/1"		6.3	
		<i>Boring Terminated at 18.6 Feet</i>	18.6	639.4								

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Hammer Type
 Automatic

Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 RD

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Boring Started
 06-16-2025
 Boring Completed
 06-16-2025

Boring Log No. B-133

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2753° Longitude: -95.9084° Northing: 470862.885 Easting: 2584987.867	Approximate Elevation: 651 (Ft.)								LL-PL-PI	Percent Fines
1	TOPSOIL	1.0	650									
	LEAN CLAY (CL), brown, soft	2.0	649		X		8	0-2-1 N=3		24.3		
	SHALEY LEAN CLAY (CL), light brown, hard	3.5	647.5		X		14	6-17-32 N=49		13.6	42-18-24	90.0
2	SHALE, light brown and gray, soft to hard			5	X		11	20-50/5"		9.6		
					X		8	32-50/2"		11.3		
					X		8	32-50/2"		9.7		
						X		3	50/3"		9.0	
						X		2	50/2"		7.2	
		18.7	632.3									
		<i>Boring Terminated at 18.7 Feet</i>										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-16-2025</p> <p>Boring Completed 06-16-2025</p>

Boring Log No. B-134

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2753° Longitude: -95.9079° Northing: 470865.958 Easting: 2585130.435	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 645 (Ft.)									
	TOPSOIL		1.0								
1		SHALEY LEAN CLAY WITH SAND (CL), light brown, stiff to hard	644								
				15	0-3-9 N=12	23.7					
				7	18-17-18 N=35	14.8					
			5	16	6-11-16 N=27	16.7	42-16-26	82.6			
			8.5								
2		SHALE, light brown and gray, soft to moderately hard	636.5								
			10	11	20-50/5"	11.6					
			15	10	20-50/4"	10.8					
			19.0								
		626									
		Boring Terminated at 19 Feet									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-16-2025</p> <p>Boring Completed 06-16-2025</p>

Boring Log No. B-135

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2753° Longitude: -95.9069° Northing: 470876.406 Easting: 2585415.476	Approximate Elevation: 632 (Ft.)								LL-PL-PI	Percent Fines	
		Depth (Ft.)	Approximate Elevation: 632 (Ft.)										
1	TOPSOIL	1.0	631										
	LEAN CLAY (CL), brown, medium stiff	2.0	630		X	15		2-2-4 N=6		17.8			
	SHALEY LEAN CLAY (CL), brown, stiff to hard				X	9		2-5-8 N=13		15.1			
						X	14		4-8-14 N=22		18.0		
						X	14		12-15-20 N=35		14.1		
2	SHALE, gray, soft to moderately hard	9.5	622.5		X	11		20-43-50/6"		11.6	40-24-16	98.1	
					X	1		50/3"		6.5			
					X	1		50/3"		4.5			
		18.8	613.2		X	1		50/3"		4.5			
		Boring Terminated at 18.8 Feet											

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.	Water Level Observations Groundwater not encountered during drilling and sampling
Notes	Drill Rig CME 55 Track Hammer Type Automatic Driller WA Advancement Method Continuous Flight Augers Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite
	Logged by MG Boring Started 06-25-2025 Boring Completed 06-25-2025

Boring Log No. B-136

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2747° Longitude: -95.9097°	Northing: 470654.726 Easting: 2584614.155								LL-PL-PI	Percent Fines
Depth (Ft.)		Approximate Elevation: 651 (Ft.)										
1		1.0	650									
		2.0	649			16	3-8-18 N=26		13.4	31-19-12	91.9	
2		<u>SHALE</u> , light brown and gray, soft to hard				8	21-50/2"		9.0			
						8	26-50/2"		7.7			
					5		11	28-50/5"		9.2		
							5	50/5"		8.6		
							2	50/2"		8.5		
							2	50/2"		5.5		
		18.7	632.3	<i>Boring Terminated at 18.7 Feet</i>								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-13-2025</p> <p>Boring Completed 06-13-2025</p>

Boring Log No. B-139

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2748° Longitude: -95.9079° Northing: 470680.951 Easting: 2585132.262	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 642 (Ft.)									
	1	<u>TOPSOIL</u>	1.0 641								
		<u>LEAN CLAY (CL)</u> , brown, medium stiff	2.0 640			18	0-2-4 N=6	25.6			
		<u>SHALEY LEAN CLAY (CL)</u> , light brown to reddish brown, very stiff to hard				17	8-14-19 N=33	15.0			
						15	12-12-15 N=27	14.1			
						18	14-17-21 N=38	16.1			
			8.5 633.5								
	2	<u>SHALE</u> , light brown and gray, moderately hard to hard				14	21-40-50/2"	11.6			
						9	28-50/3"	10.9			
			18.9 623.1			4	50/4"	8.2			
Boring Terminated at 18.9 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-13-2025</p> <p>Boring Completed 06-13-2025</p>

Boring Log No. B-141

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2747° Longitude: -95.9070° Northing: 470673.913 Easting: 2585404.714	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 633 (Ft.)									
	TOPSOIL		1.0	632							
	LEAN CLAY, brown, medium stiff		2.0	631		18	2-2-3 N=5				
1	SHALEY LEAN CLAY, brown and gray, stiff to hard				18	4-5-9 N=14					
					18	4-8-11 N=19					
					18	5-7-11 N=18					
					18	13-28-43 N=71					
	SHALE, brown and gray, moderately hard		13.5	619.5		4	50/4"				
2	SHALE, brown and gray, moderately hard				60	REC: 100% RQD: 71%	5033				
					60	REC: 100% RQD: 100%					
					60	REC: 100% RQD: 100%					
			30.0	603							
Boring Terminated at 30 Feet			30								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PM</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 15' Coring: 15' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-12-2025</p> <p>Boring Completed 06-12-2025</p>

Boring Log No. B-142

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits																												
		Latitude: 36.2744° Longitude: -95.9097° Northing: 470527.834 Easting: 2584616.887	Depth (Ft.)								Approximate Elevation: 646 (Ft.)	LL-PL-PI	Percent Fines																										
1		1.0 <u>TOPSOIL</u> 645		5	X	15	15	4-8-14 N=22	15.5	15.5	32-21-11	90.3																											
		2.0 <u>SHALEY LEAN CLAY (CL)</u> , light brown, very stiff 644																																					
2		<u>SHALE</u> , light brown and gray, soft to hard		10	X	12	12	27-50/6"	8.5	8.5	32-21-11	90.3																											
													15	X	17	17	27-37-50/5"	10.1	10.1	32-21-11	90.3																		
																						10	X	8	8	34-50/2"	10.3	10.3	32-21-11	90.3									
																															15	X	3	3	50/3"	9.1	9.1	32-21-11	90.3
18.9 627.1																																							
Boring Terminated at 18.9 Feet																																							

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-13-2025</p> <p>Boring Completed 06-13-2025</p>

Boring Log No. B-144

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2744° Longitude: -95.9083° Northing: 470554.023 Easting: 2585033.423	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1	TOPSOIL	Depth (Ft.) Approximate Elevation: 643 (Ft.)									
	1.0	642									
	LEAN CLAY (CL), brown, medium stiff										
	2.0	641			16	0-2-5 N=7					
	SHALEY LEAN CLAY (CL), brown to light brown, very stiff to hard				11	11-12-13 N=25					
5					13	6-9-12 N=21					
					18	23-28-31 N=59					
					17						
10											
15	SHALE, light brown and gray, soft to moderately hard				5	50/5"					
	13.5	629.5									
18.8											
	18.8	624.2			3	50/3"					
		<i>Boring Terminated at 18.8 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p> <p>Hammer Type Automatic</p> <p>Driller WA</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by RD</p> <p>Boring Started 06-12-2025</p> <p>Boring Completed 06-12-2025</p>

Boring Log No. B-145

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2744° Longitude: -95.9076° Northing: 470564.802 Easting: 2585234.178	Approximate Elevation: 637 (Ft.)								LL-PL-PI	Percent Fines
1		TOPSOIL		1.0	636							
		LEAN CLAY (CL), brown, soft		2.0	635	X	18	0-0-2 N=2		22.6		
		SHALEY LEAN CLAY (CL), light brown, stiff to hard				X	15	6-10-11 N=21		19.5		
						X	7	6-7-7 N=14		12.5		
						X	12	8-7-8 N=15		17.6	45-17-28	92.6
												
						X	14	5-5-7 N=12		14.3		
												
						X	18	15-25-33 N=58		12.7		
												
2		SHALE, light brown and gray, soft to hard		18.5	618.5	X	11	29-50/5"		14.3		
		Boring Terminated at 23.7 Feet		23.7	613.3	X	2	50/2"		8.5		

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 550 ATV

 Hammer Type
 Automatic

 Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 RD

 Boring Started
 06-12-2025

 Boring Completed
 06-12-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Log No. B-147

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2740° Longitude: -95.9070° Northing: 470411.619 Easting: 2585414.692	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 634 (Ft.)									
		<u>TOPSOIL</u>	1.0 633								
1		<u>LEAN CLAY (CL)</u> , brown, soft	2.0 632		X	14	1-2-2 N=4				
		<u>SHALEY LEAN CLAY (CL)</u> , light brown, stiff to hard			X	11	8-8-10 N=18				
						X	8	6-7-7 N=14			
						X	16	11-12-12 N=24			
						X	18	9-14-28 N=42			
2		<u>SHALE</u> , light brown and gray, moderately hard to hard	13.5 620.5		X	9	11-50/3"				
			18.7 615.3		X	2	50/2"				
		<i>Boring Terminated at 18.7 Feet</i>									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 550 ATV

 Hammer Type
 Automatic

 Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 RD

 Boring Started
 06-11-2025

 Boring Completed
 06-11-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Log No. B-148

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2741° Longitude: -95.9081° Northing: 470429.977 Easting: 2585068.513	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 640 (Ft.)									
	<u>TOPSOIL</u>		1.0 639								
1		SHALEY LEAN CLAY (CL), brown and gray, stiff to very stiff	18		18	1-3-9 N=12					
			18		18	7-11-16 N=27		11.4			
			18		18	9-11-12 N=23		17.5	42-15-27	89.6	
			18		18	6-8-10 N=18		16.6			
			8.5 631.5								
	<u>SHALE</u> , brown and gray, soft		10		12	31-50/6"		11.9			
2			60		60	REC: 100% RQD: 73%					
			60		60	REC: 100% RQD: 77%					
			20.0 620								
		<i>Boring Terminated at 20 Feet</i>	20								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-11-2025</p> <p>Boring Completed 06-11-2025</p>

Boring Log No. B-149

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2740° Longitude: -95.9096° Northing: 470407.768 Easting: 2584636.762	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Approximate Elevation: 644 (Ft.)										
1		<u>TOPSOIL</u>	1.0 643									
		<u>LEAN CLAY (CL)</u> , light brown, stiff	2.0 642			9	3-3-8 N=11		18.2			
		<u>SHALEY LEAN CLAY (CL)</u> , light brown, hard	5.0 639	5			18	21-27-30 N=57		12.5	47-22-25	95.2
		<u>SHALE</u> , light brown and gray, moderately hard to hard	13.8 630.2	10			18	11-21-35 N=56		16.5		
2			13.8 630.2			10	21-50/4"		12.1			
			13.8 630.2			8	25-50/2"		11.2			
		<i>Boring Terminated at 13.8 Feet</i>				3	50/3"		9.8			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-13-2025</p> <p>Boring Completed 06-13-2025</p>

Boring Log No. B-150

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2726° Longitude: -95.9074° Northing: 469894.609 Easting: 2585287.526	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Depth (Ft.) Approximate Elevation: 634 (Ft.)										
		TOPSOIL	1.0	633								
		SHALEY LEAN CLAY (CL), light brown, stiff to hard			X	12		2-5-6 N=11		21.8	49-15-34	88.5
					X	11		7-9-8 N=17		18.2		
					█	21						
					X	18		8-9-10 N=19		14.7		
					X	11		6-7-9 N=16		13.0		
			X	18		14-24-49 N=73		14.3				
			X	16		6-9-24 N=33		9.5				
		Boring Terminated at 20 Feet	20.0	614								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 750X ATV</p> <p>Hammer Type Automatic</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-11-2025</p> <p>Boring Completed 06-11-2025</p>

Boring Log No. B-151

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2758° Longitude: -95.9140° Northing: 471007.939 Easting: 2583329.336	Approximate Elevation: 685 (Ft.)								LL-PL-PI	Percent Fines
1		TOPSOIL		1.0								
		SILTY SAND (SM), brown and gray, medium dense		2.0			18	4-4-19 N=23		16.3	NP	49.2
2		SANDSTONE, brown, cemented		5.0			11	7-50/4"		17.0		
							3	50/3"		10.2		
		SHALE, brown and gray, soft to moderately hard		5.0			3	50/3"		8.0		
							4	50/6"		7.5		
						10		60	REC: 100% RQD: 61%	2430		
						15		60	REC: 100% RQD: 63%	1924		
				20		56.5	REC: 94% RQD: 62%	1958				
				25		56.5	REC: 94% RQD: 84%	4663				
		Boring Terminated at 30 Feet		30.0								

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Dry to 10'

Drill Rig
 CME 750X ATV

Hammer Type
 Automatic

Driller
 PH

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Coring: 10' - 30'

Logged by
 JP

Boring Started
 06-13-2025

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Boring Completed
 06-13-2025

Boring Log No. B-152

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2747° Longitude: -95.9140° Northing: 470631.658 Easting: 2583341.744	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 665 (Ft.)									
1	TOPSOIL		1.0	664							
	SHALEY LEAN CLAY (CL), brown, very stiff to hard				11	4-7-15 N=22		11.3			
					12	18-25-32 N=57		8.2			
				5.0	660	14	8-10-39 N=49		15.5	32-16-16	90.7
2	SANDSTONE, brown, poorly cemented to cemented				4	50/5"		7.3			
					8	15-50/3"		7.1			
					0	50/3"					
				19.0	646	1	50/5"		4.1		
Boring Terminated at 19 Feet											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Hammer Type
 Automatic

Driller
 WA

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 MG

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Boring Started
 06-26-2025
 Boring Completed
 06-26-2025

Boring Log No. B-156

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2716° Longitude: -95.9132° Northing: 469508.958 Easting: 2583584.52	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 671 (Ft.)									
1		1.0 <u>TOPSOIL</u> 670									
		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, very stiff to hard 667.5			18	2-7-21 N=28		20.5			
2		<u>SHALE</u> , brown and gray, soft to moderately hard -gray below 15' 30.0 641			18	7-13-36 N=49		16.9	30-19-11	83.2	
					5	50/5"		8.9			
					4	50/4"		8.0			
					4	50/4"		9.3			
					60	REC: 100% RQD: 53%	1377				
					58	REC: 97% RQD: 73%	3268				
		60	REC: 100% RQD: 100%	2397							
		60	REC: 100% RQD: 100%								
		Boring Terminated at 30 Feet	30								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-157

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2712° Longitude: -95.9132° Northing: 469350.213 Easting: 2583585.889	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Depth (Ft.)	Elevation: 680 (Ft.)								
		1.0 TOPSOIL	679								
2		2.0 SANDY SILT (ML), brown and gray, very stiff	678			18	3-3-13 N=16		15.4	NP	57.0
		SHALE, brown and gray, soft to moderately hard				6	50/6"		8.5		
						4	50/4"		8.4		
						4	50/4"		6.4		
						5	50/5"		10.1		
						59	REC: 98% RQD: 98%				
						59	REC: 98% RQD: 86%				
						56	REC: 93% RQD: 63%				
						60	REC: 100% RQD: 83%				
						55	REC: 92% RQD: 88%				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 40'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-157

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2712° Longitude: -95.9132° Northing: 469350.213 Easting: 2583585.889	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	Percent Fines
										LL-PL-PI	
2		Depth (Ft.) Elevation: 680 (Ft.) SHALE , brown and gray, soft to moderately hard <i>(continued)</i>	55			55	REC: 92% RQD: 92%				
		40.0 640 <i>Boring Terminated at 40 Feet</i>	40								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 40'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-158

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2712° Longitude: -95.9125° Northing: 469358.792 Easting: 2583807.077	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 669 (Ft.)										
1		1.0 <u>TOPSOIL</u> 668										
		SHALEY LEAN CLAY (CL), brown and gray, stiff to hard										
2		8.5 <u>SHALE</u> , brown and gray, moderately hard 660.5										
		SHALE, brown and gray, moderately hard										
		30.0 <u>-gray below 20'</u> 639										
		Boring Terminated at 30 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-10-2025</p> <p>Boring Completed 06-10-2025</p>

Boring Log No. B-159

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2712° Longitude: -95.9118° Northing: 469361.043 Easting: 2584001.451	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 658 (Ft.)										
1		1.0 <u>TOPSOIL</u> 657 <u>SHALEY LEAN CLAY WITH SAND (CL)</u> , light brown, very stiff to hard -brown below 5'			X	18	9-10-14 N=24		11.9			
					X	18	6-17-20 N=37		15.3			
				5		X	18	12-16-15 N=31		14.3	39-17-22	75.1
						X	15	10-12-15 N=27		13.2		
						X	18	11-11-12 N=23		15.4		
						X	6	50/6"		11.9		
2		13.5 <u>SANDSTONE</u> , brown, poorly cemented to cemented 644.5										
		18.9 <i>Boring Terminated at 18.9 Feet</i> 639.1										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-160

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2712° Longitude: -95.9110° Northing: 469364.16 Easting: 2584234.315	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits			
										LL-PL-PI	Percent Fines		
1		Depth (Ft.)	Elevation: 651 (Ft.)										
		1.0	650										
		TOPSOIL											
		SHALEY LEAN CLAY WITH SAND (CL), light brown to dark brown, very stiff to hard											
		-light brown and gray below 5'											
					5		X	18	5-12-20 N=32		13.0	40-14-26	81.2
						X		18	7-14-14 N=28		18.4		
				X		18	7-9-11 N=20		14.1				
				X		18	7-8-10 N=18		17.4				
			10		X								
				X		18	7-7-9 N=16		14.4				
			15		X								
				X		18	11-9-11 N=20		14.5				
2		18.5	632.5										
		19.1	631.9		X	6	50/6"		12.2				
SANDSTONE, light brown to dark brown, poorly cemented													
Boring Terminated at 19.1 Feet													

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-161

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2717° Longitude: -95.9111° Northing: 469537.349 Easting: 2584204.175	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Location: See Exploration Plan										
		Depth (Ft.)	Elevation: 648 (Ft.)									
		1.0	647									
		TOPSOIL										
		SHALEY LEAN CLAY WITH SAND (CL), brown and gray, stiff to hard										
		18.5	629.5									
		18.8	629.2									
SHALE, gray, moderately hard												
Boring Terminated at 18.8 Feet												
			5		X	18	2-6-15 N=21		24.4			
					X	18	6-2-13 N=15		16.1			
					X	18	8-8-8 N=16		14.1			
					X	18	6-7-9 N=16		14.7			
			10		X	18	4-7-9 N=16		13.6	31-16-15	76.3	
			15		X	10	11-19-21 N=40		17.4			
					X	3	50/3"		12.4			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-10-2025</p> <p>Boring Completed 06-10-2025</p>

Boring Log No. B-162

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9106° Northing: 469224.436 Easting: 2584362.196	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 644 (Ft.)										
1		1.0 <u>TOPSOIL</u> 643										
		SHALEY LEAN CLAY WITH SAND (CL) , brown and gray, very stiff to hard										
			5	18	3-7-15 N=22	16.3						
				18	13-16-14 N=30	16.1						
				18	8-14-18 N=32	15.4						
	17	10-16-20 N=36	13.3	38-17-21	82.8							
2		8.5 <u>SANDSTONE</u> , brown and gray, poorly cemented to cemented 635.5										
		SANDSTONE , brown and gray, poorly cemented to cemented	10	9	23-50/3"	12.0						
			15	5	50/5"	9.9						
		18.8 <u>gray below 18.5'</u> 625.2 <i>Boring Terminated at 18.8 Feet</i>										
					3	50/3"	7.7					

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-163

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9111° Northing: 469227.96 Easting: 2584225.962	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 650 (Ft.)									
1		1.0 <u>TOPSOIL</u> 649									
		13.5 <u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown, very stiff to hard 636.5	5	X	18	10-15-20 N=35	14.2	36-14-22	81.2		
			X	16	10-20-16 N=36	16.7					
			X	15	7-11-12 N=23	15.7					
			X	18	12-14-15 N=29	14.0					
			X	18	11-11-20 N=31	13.3					
2		13.5 <u>SANDSTONE</u> , brown and gray, poorly cemented 636.5	15	X	5	50/5"	9.0				
		19.0 <u>Boring Terminated at 19 Feet</u> 631		X	5	50/5"	9.9				

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-164

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2708° Longitude: -95.9120° Northing: 469213.36 Easting: 2583947.477	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 661 (Ft.)									
1	TOPSOIL	1.0 660									
	SHALEY LEAN CLAY WITH SAND (CL), light brown and gray, hard			X	18	7-13-18 N=31		18.8			
				X	18	8-14-18 N=32		14.0	30-15-15	76.0	
			5.0 656		X	18	14-18-22 N=40		14.1		
		SHALEY LEAN CLAY (CL), light brown and gray, hard			X	18	10-14-20 N=34		14.7		
2		8.5 652.5		■	24			12.7	30-17-13	88.3	
	SANDSTONE, brown, poorly cemented to well cemented			X	6	50/6"		14.5			
				X	3	50/3"		7.7			
		18.7 642.3		X	2	50/2"		8.2			
		<i>Boring Terminated at 18.7 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-166

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2703° Longitude: -95.9133° Northing: 469020.632 Easting: 2583590.695	Depth (Ft.)	Elevation: 691 (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1			1.0	690									
			TOPSOIL										
			2.0	689			18	4-12-42 N=54		15.0	NP	58.3	
			SANDY SILT (ML), brown, hard				4	50/4"		12.8			
			SANDSTONE, brown, cemented				4	50/3"		11.6			
							4	50/4"		10.5			
							5	50/4"					
			8.5	682.5			5	50/5"		8.7			
			SHALE, gray, soft to moderately hard				3	50/3"		14.1			
			2										
							60	REC: 100% RQD: 95%	3412				
							60	REC: 100% RQD: 93%					
							60	REC: 100% RQD: 95%	3382				
							58	REC: 96% RQD: 76%	1684				
			35.0	656									
Boring Terminated at 35 Feet													

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations</p> <p> 10' While drilling</p> <p> 8' After 24 hours</p>	<p>Drill Rig CME 750X ATV</p> <p>Driller PH</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 15' Coring: 15' - 35'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-168

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2703° Longitude: -95.9121° Northing: 469027.832 Easting: 2583925.533	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 663 (Ft.)										
1		1.0 <u>TOPSOIL</u> 662										
		SANDY LEAN CLAY (CL), light brown, soft to medium stiff										
		8.5 654.5										
2		SANDSTONE, light brown, poorly cemented										
		18.9 644.1										
		Boring Terminated at 18.9 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations</p> <p>▽ 5' While drilling</p> <p>▽ 6' At completion of drilling</p>	<p>Drill Rig CME 550 ATV</p> <p>Driller RP</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-169

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2703° Longitude: -95.9116° Northing: 469031.178 Easting: 2584081.072	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 653 (Ft.)									
1		1.0 <u>TOPSOIL</u> 652									
		<u>LEAN CLAY WITH SAND (CL)</u> , brown, medium stiff to stiff									
			5	18	2-3-4 N=7	23.3					
			18	1-3-4 N=7	21.5						
			18	4-6-8 N=14	17.3						
18	2-4-6 N=10	16.6	37-15-22	81.2							
		8.5 644.5									
2		<u>SANDSTONE</u> , light brown, poorly cemented to cemented									
		10	12	15-50/6"	13.7						
		15	3	50/3"	9.8						
		18.8 634.2									
		<i>Boring Terminated at 18.8 Feet</i>									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-170

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2703° Longitude: -95.9111° Northing: 469032.327 Easting: 2584234.494	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 647 (Ft.)									
1	TOPSOIL SHALEY LEAN CLAY (CL), brown and gray, very stiff to hard	1.0 646				18	3-9-16 N=25		17.1		
						14	5-9-17 N=26		16.4		
		5.0 642				18	8-8-25 N=33		11.1	41-25-16	99.6
						11	29-50/5"		11.5		
2	SHALE, brown and gray, soft -gray below 15'					6	50/6"		10.5		
						60	REC: 100% RQD: 59%				
						60	REC: 100% RQD: 88%				
		20.0 627									
Boring Terminated at 20 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-10-2025</p> <p>Boring Completed 06-10-2025</p>

Boring Log No. B-172

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2699° Longitude: -95.9106° Northing: 468888.906 Easting: 2584369.418	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 644 (Ft.)										
1		1.0 <u>TOPSOIL</u> 643										
		SANDY SHALEY LEAN CLAY (CL), brown and gray, very stiff to hard										
			18	4-6-11 N=17	24.6							
			18	10-18-21 N=39	13.8	41-15-26	59.4					
			18	8-12-20 N=32	16.2							
18	15-20-50 N=70	13.7										
2		8.5 635.5										
		SANDSTONE, brown and gray, poorly cemented to cemented	6	50/6"	10.7							
			5	50/5"	10.7							
		18.8 625.2										
		gray below 18.5' Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-173

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2699° Longitude: -95.9112° Northing: 468896.22 Easting: 2584209.326	Depth (Ft.)	Elevation: 649 (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
											LL-PL-PI	Percent Fines
		<u>TOPSOIL</u>	1.0	648								
1		<u>SANDY LEAN CLAY (CL)</u> , brown and gray, soft to medium stiff										
					X	18	1-1-1 N=2	25.4				
					X	9	0-1-1 N=2	23.8				
				▽	X	17	0-1-1 N=2	24.6	30-14-16	63.9		
			8.5	640.5								
2		<u>SHALE</u> , brown and gray, moderately hard										
					X	15	20-31-50/3"	18.2				
					X	5	50/5"	13.6				
			13.5	635.5								
		<u>SANDSTONE</u> , brown and gray, poorly cemented to well cemented -gray below 15'										
			18.7	630.3								
		<i>Boring Terminated at 18.7 Feet</i>										
							2	50/2"		10.8		

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations 5' While drilling 16' At completion of drilling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-174

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2700° Longitude: -95.9118° Northing: 468922.312 Easting: 2584011.249	Depth (Ft.)	Elevation: 659 (Ft.)	Water Level Observations	Sample Type	Recovery ()	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
											LL-PL-PI	Percent Fines
1		<u>TOPSOIL</u>	1.0	658								
		<u>LEAN CLAY WITH SAND (CL)</u> , dark brown to reddish brown, soft to medium stiff			▽	X		2-3-2 N=5		19.2		
						▽	X		2-2-3 N=5	23.1	29-18-11	74.9
						▽	X		2-2-2 N=4	20.8		
						▽	X		1-2-2 N=4	23.7		
2		<u>SHALEY LEAN CLAY (CL)</u> , dark brown to reddish brown, very stiff	8.5	650.5								
					▽	X		8-9-12 N=21		18.6		
						X		50/6"		13.3		
		<u>SANDSTONE</u> , brown to gray, poorly cemented	13.5	645.5								
			19.0	640				50/5"		15.7		
		<i>Boring Terminated at 19 Feet</i>										

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 3.5' While Drilling
 10' At completion of drilling

Drill Rig
CME 550 ATV

Driller
RP

Notes

Advancement Method
Continuous Flight Augers

Logged by
AG

Abandonment Method
Boring backfilled with Auger Cuttings and/or Bentonite

Boring Started
05-30-2025
Boring Completed
05-30-2025

Boring Log No. B-175

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2700° Longitude: -95.9126° Northing: 468920.501 Easting: 2583784.525	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Elevation: 673 (Ft.)										
1		1.0 <u>TOPSOIL</u> 672										
		<u>SHALEY LEAN CLAY (CL)</u> , dark gray, very stiff to hard										
			5									
2		8.5 <u>SANDSTONE</u> , dark gray to gray, poorly cemented to well cemented 664.5										
			10									
			15									
			20									
			25									
		28.7 <u>Boring Terminated at 28.7 Feet</u> 644.3										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-30-2025</p> <p>Boring Completed 05-30-2025</p>

Boring Log No. B-176

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2699° Longitude: -95.9133° Northing: 468878.339 Easting: 2583572.459	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	Percent Fines
										LL-PL-PI	
2		Depth (Ft.) Elevation: 691 (Ft.) <u>SHALE</u> , gray, hard (<i>continued</i>)	60			60	REC: 100% REC: 90%	2289			
		40.0 651 <i>Boring Terminated at 40 Feet</i>	40								

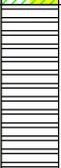
<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10' 4' After 24 hours</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 15' Coring: 15' - 40'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-178

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2695° Longitude: -95.9111° Northing: 468748.23 Easting: 2584231.962	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		<u>TOPSOIL</u>	651								
1		<u>SHALEY LEAN CLAY (CL)</u> , brown and gray, hard	1.0		X	18	5-11-22 N=33		21.2		
			5		X	18	22-25-17 N=42		16.1		
			5		X	18	10-17-20 N=37		15.5		
			5		X	18	18-18-15 N=33		11.2		
			10		X	18	21-28-38 N=66		13.3	43-22-21	99.0
2		<u>SHALE</u> , brown and gray, soft	13.5		X	6	50/6"		11.2		
			15								
		<u>SANDSTONE</u> , gray, cemented	18.5		X	3	50/3"		6.2		
		<i>Boring Terminated at 18.8 Feet</i>	18.8								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-179

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2695° Longitude: -95.9106° Northing: 468762.333 Easting: 2584387.272	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Location: See Exploration Plan Latitude: 36.2695° Longitude: -95.9106° Northing: 468762.333 Easting: 2584387.272									
		1.0 <u>TOPSOIL</u> Elevation: 645 (Ft.)									
1		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , brown and gray, very stiff to hard	5	X	18	6-18-13 N=31	19.0			81.0	
			6	X	16	5-12-21 N=33	19.8				
			7	X	18	8-11-18 N=29	17.4				
			8	X	18	11-12-13 N=25	11.8				
			9	X	18	8-9-10 N=19	13.7				
2		<u>SHALE</u> , brown and gray, soft	15	X	11	22-50/5"	14.2				
			16	X	5	50/5"	12.7				
			17	X	5	50/5"	12.7				
		18.5 626.5 19.1 625.9 <u>SANDSTONE</u> , brown and gray, poorly cemented									
		Boring Terminated at 19.1 Feet									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-04-2025</p> <p>Boring Completed 06-04-2025</p>

Boring Log No. B-180

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2690° Longitude: -95.9076° Northing: 468577.152 Easting: 2585281.345	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		<u>TOPSOIL</u>	624								
		<u>LEAN CLAY WITH SAND (CL)</u> , dark brown, stiff	621.5		17	2-5-5 N=10		24.5			
		<u>SHALEY LEAN CLAY (CL)</u> , dark brown and gray, stiff to hard	621.5	5		7	3-4-5 N=9		24.9	44-18-26	83.3
				5		18	5-6-7 N=13		23.5		
				10		18	5-8-10 N=18		18.6		
2		<u>SANDSTONE</u> , gray, cemented	611.5		18	19-33-50 N=83		12.5			
			611.5		3	50/3"		6.1			
		<i>Boring Terminated at 18.8 Feet</i>	606.2		3	50/3"		5.9			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-181

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016	Elevation: 692 (Ft.)									
			1.0 TOPSOIL 691									
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016	2.0 SILTY SAND (SM), brown, medium dense 690			18	3-5-14 N=19		17.7	NP	33.4	
			SANDSTONE, brown, cemented to well cemented									
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016	13.5 SHALE, gray, moderately hard 678.5			2	50/3"		13.0			
			SHALE, gray, moderately hard									
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
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2		Location: See Exploration Plan Latitude: 36.2702° Longitude: -95.9141° Northing: 468991.308 Easting: 2583348.016										
2		Location: See 										

Boring Log No. B-182

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2691° Longitude: -95.9140° Northing: 468594.257 Easting: 2583369.144	Depth (Ft.)								Elevation: 698 (Ft.)	LL-PL-PI
1		1.0 <u>TOPSOIL</u>		697				4-4-4 N=8		21.1		
		2.0 <u>LEAN CLAY (CL)</u> , dark brown, medium stiff		696				28-50/3"		13.6		
2		<u>SANDSTONE</u> , reddish brown and gray, poorly cemented to well cemented		5				50/4"		10.7		
								50/5"		18.5		
								50/2"		7.4		
								50/4"		14.5		
								50/4"		9.9		
								50/4"		9.9		
		18.9		679.1	<i>Boring Terminated at 18.9 Feet</i>							

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 3.5' While Drilling
 16' At completion of drilling

Drill Rig
 CME 550 ATV

Driller
 RP

Notes

Advancement Method
 Continuous Flight Augers

Logged by
 AG

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Boring Started
 05-30-2025
 Boring Completed
 05-30-2025

Boring Log No. B-183

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2706° Longitude: -95.9152° Northing: 469129.612 Easting: 2583018.191	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Depth (Ft.)	Elevation: 671 (Ft.)									
		1.0 TOPSOIL	670									
2		2.0 SILTY SAND (SM), brown, dense	669			18	5-13-33 N=46		15.9	NP	37.4	
		SHALE, brown, soft to hard					5	50/5"		13.8		
							4	50/4"		10.8		
							9	30-50/2"		12.4		
							6	50/6"		9.6		
							4	50/4"		7.2		
							3	50/3"		6.5		
		18.8	652.2									
		Boring Terminated at 18.8 Feet										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller PH</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by JP</p> <p>Boring Started 06-11-2025</p> <p>Boring Completed 06-11-2025</p>

Boring Log No. B-184

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2700° Longitude: -95.9151° Northing: 468890.222 Easting: 2583048.751	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	Percent Fines
										LL-PL-PI	
1		Depth (Ft.) <u>TOPSOIL</u> Elevation: 694 (Ft.)	1.0			6	50/6"		11.5		
2		<u>SANDSTONE</u> , brown and gray, poorly cemented to well cemented	18.7			3	50/3"		11.4		
			5			2	50/2"		9.3		
			10			2	50/2"		8.5		
			15			2	50/2"		8.3		
			18.7			2	50/2"		8.7		
		Boring Terminated at 18.7 Feet	675.3			2	50/2"		6.9		

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 05-30-2025</p> <p>Boring Completed 05-30-2025</p>

Boring Log No. B-186

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2693° Longitude: -95.9155° Northing: 468654.931 Easting: 2582943.06	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1		Location: See Exploration Plan Latitude: 36.2693° Longitude: -95.9155° Northing: 468654.931 Easting: 2582943.06 Depth (Ft.) Elevation: 692 (Ft.)	1.0								
		TOPSOIL 1.0 691			X	15	7-42-50/3"		13.6		
		SANDSTONE , brown, poorly cemented to well cemented			X	2	50/3"		9.2		
					X	5	50/5"		5.2		
				5	X	3	50/3"		10.1		
					X	4	50/4"		10.1		
		-gray below 13.5'			X	1	50/1"		14.1		
				15	█	60	REC: 100% RQD: 57%	4860			
				20	█	60	REC: 100% RQD: 25%	4664			
			24.0 668								
Boring Terminated at 24 Feet											

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.	Water Level Observations Dry to 10'	Drill Rig CME 750X ATV
Notes	Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 14' Coring: 14' - 24' Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite	Driller PH Logged by JP Boring Started 06-03-2025 Boring Completed 06-03-2025

Boring Log No. B-188

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2692° Longitude: -95.9168° Northing: 468905.267 Easting: 2582271.058	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Location: See Exploration Plan										
		1.0 TOPSOIL Elevation: 695 (Ft.)	694									
2		2.0 CLAYEY SAND (SC), gray, very dense	693			10	2-50/4"		16.9	26-16-10	49.9	
		SANDSTONE, brown, well cemented					2	50/2"		22.6		
							2	50/2"		9.4		
							1	50/1"		10.0		
							2	50/2"		10.9		
							2	50/2"		8.0		
							2	50/2"		10.1		
		-gray below 13.5'										
		18.7	676.3									
Boring Terminated at 18.7 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations</p> <p> 18.5' While drilling</p> <p> 18.5' At completion of drilling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-189

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2701° Longitude: -95.9177° Northing: 468905.267 Easting: 2582271.058	Depth (Ft.)	Water Level Observations	Sample Type	Recovery ()	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 700 (Ft.)									
1		<u>TOPSOIL</u>	1.0 699								
		<u>LEAN CLAY (CL)</u> , reddish brown and gray, medium stiff	2.0 698				2-3-4 N=7		19.8		
		<u>SANDY SILT (ML)</u> , reddish brown and gray, hard	3.5 696.5				4-22-38 N=60		15.2	NP	57.6
2		<u>SANDSTONE</u> , light brown, poorly cemented to well cemented	8.5 691.5				50/6"		10.8		
		<u>SHALE</u> , light brown, moderately hard	10 688.5				50/2"		9.2		
		<u>SANDSTONE</u> , light brown, well cemented	13.5 686.5				10-50/4"		17.2		
		<u>SANDSTONE</u> , light brown, well cemented	15 681.4				50/1"		8.8		
		<u>SANDSTONE</u> , light brown, well cemented	18.6 681.4				50/1"		9.4		
		gray below 18.5' <i>Boring Terminated at 18.6 Feet</i>									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 550 ATV

Notes

Advancement Method
 Continuous Flight Augers

Driller
 RP

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 AG

Boring Started
 05-29-2025

Boring Completed
 05-29-2025

Boring Log No. B-190

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2690° Longitude: -95.9183° Northing: 468528.053 Easting: 2582126.892	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Elevation: 700 (Ft.)									
1	TOPSOIL	1.0 699									
		<u>SILTY SAND (SM)</u> , reddish brown, medium dense to very dense		X	18	4-4-15 N=19		18.7	NP	39.5	
2	SANDSTONE	3.5 696.5									
		<u>SANDSTONE</u> , dark brown, poorly cemented to cemented									
			5		X	5	50/5"		14.3		
				5		X	3	50/3"		11.5	
				10		X	4	50/4"		8.8	
				15		X	3	50/3"		11.2	
		19.0 681									
<i>Boring Terminated at 19 Feet</i>											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 05-29-2025</p> <p>Boring Completed 05-29-2025</p>

Boring Log No. B-192

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
		Latitude: 36.2678° Longitude: -95.9141°	Northing: 468122.808 Easting: 2583364.296								LL-PL-PI	Percent Fines
		Depth (Ft.)	Approximate Elevation: 683 (Ft.)									
1		1.0	682									
		1.5	681.5		X	1	6-35-50/1"			18.5	NP	50.4
2												
					X	1	50/3"			23.6		
					X	1	50/3"			19.7		
				5	X	2	50/2"			20.9		
				10	X	1	50/1"			22.4		
				15	X	2	50/3"			19.9		
		18.8	664.2		X	2	50/3"			12.8		
Boring Terminated at 18.8 Feet												

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-28-2025</p> <p>Boring Completed 05-28-2025</p>

Boring Log No. B-193

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2670° Longitude: -95.9141° Northing: 467816.079 Easting: 2583379.288	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 681 (Ft.)									
1		<u>TOPSOIL</u>	1.0 680								
		<u>SANDY LEAN CLAY (CL)</u> , reddish brown, soft	2.0 679	X		5	0-0-2 N=2		21.7		
		<u>SILTY SAND (SM)</u> , reddish brown, very dense	5.0 676	X		7	6-35-50/5"		19.6		
		<u>SHALE</u> , reddish brown, soft to moderately hard	18.8 662.2	X		17	2-15-45 N=60		24.4	NP	49.1
2			5	X		5	50/5"		23.7		
			10	X		18	30-50/3"		24.9		
			15	X		6	50/3"		20.4		
		<i>Boring Terminated at 18.8 Feet</i>	18.8 662.2	X		6	50/3"		26.2		

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 05-28-2025
 Boring Completed
 05-28-2025

Boring Log No. B-194

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2668° Longitude: -95.9129° Northing: 467737.925 Easting: 2583727.92	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1	TOPSOIL	Depth (Ft.) Approximate Elevation: 661 (Ft.)	1.0								
	SANDY LEAN CLAY (CL), brown, very soft to medium stiff		660		X	13		6-6-2 N=8	23.3		
					X	14		2-2-2 N=4	22.0		
			5		X	13		0-0-0 N=0	22.9		
					X	18		0-0-3 N=3	24.8		
			10		X	18		3-3-3 N=6	23.5		
					X	18		1-2-3 N=5	26.2	33-18-15	67.6
			X	18		2-3-3 N=6	24.1				
		Boring Terminated at 20 Feet	20.0								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-28-2025</p> <p>Boring Completed 05-28-2025</p>

Boring Log No. B-196

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2662° Longitude: -95.9118° Northing: 467543.952 Easting: 2584039.487	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1	TOPSOIL		1.0									
	SANDY LEAN CLAY (CL), brown, medium stiff -brown and gray below 2'	Approximate Elevation: 650 (Ft.)	649			18	2-2-3 N=5		20.7			
						15	2-3-3 N=6		24.7			
				5			18	2-2-3 N=5		20.1		
						15	3-3-3 N=6		19.1	37-20-17	59.0	
				10			6	4-4-4 N=8		21.1		
				15			18	2-2-6 N=8		18.7		
	SHALEY LEAN CLAY (CL), brown and gray, hard	631.5	18.5			18	14-21-16 N=37		11.0			
	Boring Terminated at 20 Feet	630	20.0									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 550 ATV

Notes

Advancement Method
 Continuous Flight Augers

Driller
 RP

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 AG
 Boring Started
 06-10-2025
 Boring Completed
 06-10-2025

Boring Log No. B-197

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2661° Longitude: -95.9140° Northing: 467495.667 Easting: 2583391.749	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 686 (Ft.)									
1		TOPSOIL	1.0	685							
		SILTY SAND (SM), light brown, medium dense to dense, contains sandstone gravel			18	3-4-17 N=21		22.0			
				18	3-7-41 N=48	21.3	NP	40.6			
			4.5	681.5	16	7-11-50/3"	19.7				
2		SANDSTONE, brown, cemented		5	4	50/4"	12.8				
				10	3	50/3"	11.0				
				15	44	REC: 73% RQD: 53%					
				20	57	REC: 95% RQD: 92%	3399				
				25	51	REC: 85% RQD: 73%	1573				
		30.0	656	30	60	REC: 100% RQD: 100%					
		<i>Boring Terminated at 30 Feet</i>									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 550 ATV

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Coring: 10' - 30'

Driller
 RP

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 AG
 Boring Started
 06-06-2025
 Boring Completed
 06-06-2025

Boring Log No. B-198

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		Percent Fines
		Latitude: 36.2652° Longitude: -95.9140° Northing: 467179.113 Easting: 2583411.393	Approximate Elevation: 681 (Ft.)								LL-PL-PI		
1		Depth (Ft.)		1.0				50/3"		16.2			
		<u>TOPSOIL</u>		680									
		<u>SHALE</u> , red, soft to hard											
				5				50/2"		12.7			
								50/1"		10.3			
								50/1"		8.5			
				10				14-50/2"		8.8			
								30-50/1"		7.7			
				15				50/5"		8.2			
				18.9									
				662.1									
		<i>Boring Terminated at 18.9 Feet</i>											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-199

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2670° Longitude: -95.9107° Northing: 467854.909 Easting: 2584363.523	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 643 (Ft.)									
	TOPSOIL		1.0								
	SHALEY LEAN CLAY (CL), brown and gray, stiff to hard		642								
			5		16		2-4-7 N=11		19.6		
			5		18		2-4-8 N=12		11.6		
			5	12							
			5		18		8-10-10 N=20		21.8		
			10	18			6-9-10 N=19		12.5	38-15-23	86.3
			15		18		7-10-24 N=34		23.2		
			18.5		6		50/6"		17.4		
	SHALE, brown and gray, soft		624.5								
			20		44		REC: 73% RQD: 37%				
		-gray and black below 25'	25		53		REC: 88% RQD: 63%				
			30.0								
		Boring Terminated at 30 Feet	613								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations 10' While drilling</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Wash Boring: 10' - 20' Coring: 20' - 30'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-09-2025</p> <p>Boring Completed 06-09-2025</p>

Boring Log No. B-200

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2671° Longitude: -95.9101° Northing: 467874.631 Easting: 2584532.032	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Depth (Ft.) Approximate Elevation: 639 (Ft.) <u>TOPSOIL</u> 1.0 638										
		<u>LEAN CLAY (CL)</u> , reddish brown, medium stiff to very stiff				18	2-2-4 N=6		20.7	47-19-28	90.4	
						6	3-3-6 N=9		19.5			
						15	6-7-6 N=13		19.4			
						14	5-6-8 N=14		16.3			
						7	3-6-12 N=18		14.5	40-15-25	89.8	
				13.5 625.5								
		<u>SHALEY LEAN CLAY (CL)</u> , reddish brown, hard										
		18.5 620.5										
2		<u>SHALE</u> , reddish brown, hard										
		19.7 619.3				10	22-42-50/2"		12.3			
		Boring Terminated at 19.7 Feet										

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any). See Supporting Information for explanation of symbols and abbreviations.	Water Level Observations Groundwater not encountered during drilling and sampling	Drill Rig CME 55 Track
Notes	Advancement Method Continuous Flight Augers	Driller WA
	Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite	Logged by MG Boring Started 05-29-2025 Boring Completed 05-29-2025

Boring Log No. B-202

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2670° Longitude: -95.9087° Northing: 467867.558 Easting: 2584967.814	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Approximate Elevation: 630 (Ft.)										
	TOPSOIL		1.0								629	
1		SHALEY LEAN CLAY (CL), brown and gray, stiff to hard		X	17		3-5-11 N=16		16.6			
				X	12		11-13-17 N=30		15.3	49-18-31	87.5	
			5		X	18		5-5-8 N=13		16.9		
					X	15		4-5-7 N=12		18.9		
				10		X	15		9-11-12 N=23		29.9	
2		SHALE, gray, moderately hard to hard		X	7		34-50/1"		12.5			
			15		X	2		50/4"		7.8		
		Boring Terminated at 18.9 Feet	18.9								611.1	

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-29-2025</p> <p>Boring Completed 05-29-2025</p>

Boring Log No. B-203

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2670° Longitude: -95.9080° Northing: 467859.925 Easting: 2585156.181	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 626 (Ft.)									
1	TOPSOIL		1.0	625	X	18	2-2-5 N=7		20.7	43-15-28	86.7
	LEAN CLAY (CL), brown, medium stiff to stiff				X	15	3-4-5 N=9		16.6		
			5.0	621	█	18					
	SHALEY LEAN CLAY (CL), brown and gray, very stiff to hard				X	18	5-8-12 N=20		17.2		
					▽	18	10-21-45 N=66		13.9		
2	SHALE, gray, moderately hard		13.5	612.5	X	3	50/3"		16.5		
				15	█	60	REC: 100% RQD: 92%				
				20	█	60	REC: 100% RQD: 45%				
				25	█	59	REC: 98% RQD: 92%				
		Boring Terminated at 30 Feet	30.0	596							

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 ▽ 10' While drilling

Drill Rig
 CME 750X ATV

Notes

Advancement Method
 Continuous Flight Augers: 0' - 10'
 Wash Boring: 10' - 15'
 Coring: 15' - 30'

Driller
 PH

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Logged by
 JP
 Boring Started
 06-10-2025
 Boring Completed
 06-10-2025

Boring Log No. B-204

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9081° Northing: 467724.91 Easting: 2585141.517	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 625 (Ft.)									
		<u>TOPSOIL</u>	1.0 624								
1		<u>LEAN CLAY (CL)</u> , brown, medium stiff to stiff									
			5.0 620		12		2-3-4 N=7		22.5		
					12		2-4-6 N=10		20.3		
					7		3-4-4 N=8		15.0		
			<u>SANDY SHALEY LEAN CLAY (CL)</u> , brown, very stiff to hard								
			14.0 611		11		8-9-9 N=18		12.6		
					11		13-21-25 N=46		11.9	32-18-14	56.1
					5		42-50/1"		8.7		
2		<u>SHALE</u> , brown, moderately hard to hard									
			18.8 606.2		2		50/4"		7.5		
		<i>Boring Terminated at 18.8 Feet</i>									

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 05-30-2025
 Boring Completed
 05-30-2025

Boring Log No. B-205

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9086° Northing: 467714.711 Easting: 2584982.167	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 629 (Ft.)									
	TOPSOIL		1.0	628							
1		LEAN CLAY WITH SAND (CL), dark brown and gray, stiff to very stiff			18		2-4-8 N=12		24.0		
					18		5-7-12 N=19		21.1		
					17		3-5-11 N=16		19.3		
			5		18		11-12-14 N=26		13.0	41-14-27	84.7
	SHALEY LEAN CLAY (CL), brown and gray, hard		8.5	620.5							
2		SHALE, brown and gray, soft			18		12-17-21 N=38		10.9		
					12		28-50/6"		12.0		
			15								
	SHALE, brown and gray, soft		14.0	615							
	SANDSTONE, gray, well cemented		18.5	610.5							
	SANDSTONE, gray, well cemented		18.7	610.3		2	50/2"		9.0		
		Boring Terminated at 18.7 Feet									

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-206

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9097° Northing: 467709.061 Easting: 2584666.582	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Location: See Exploration Plan Latitude: 36.2666° Longitude: -95.9097° Northing: 467709.061 Easting: 2584666.582	Depth (Ft.)									
		<u>TOPSOIL</u>	Approximate Elevation: 635 (Ft.)									
		1.0	634									
		<u>LEAN CLAY (CL)</u> , brown, medium stiff to stiff										
					5	18	2-3-4 N=7	23.5				
					6	3-4-6 N=10	18.7					
			10	3-5-6 N=11	19.7							
			15	3-6-9 N=15	13.4							
			8.5	626.5								
		<u>SHALEY LEAN CLAY (CL)</u> , brown, very stiff										
			7	4-7-13 N=20	13.3							
			9	9-12-17 N=29	15.0	45-19-26	94.3					
			18.5	616.5								
		<u>SHALE</u> , brown, moderately hard										
			19.3	615.7								
		<i>Boring Terminated at 19.3 Feet</i>										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-29-2025</p> <p>Boring Completed 05-29-2025</p>

Boring Log No. B-207

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2662° Longitude: -95.9107° Northing: 467561.689 Easting: 2584369.483	Approximate Elevation: 642 (Ft.)								LL-PL-PI	Percent Fines	
1	TOPSOIL	1.0	641										
	FAT CLAY (CH), brown, soft	2.0	640		X		18	2-1-3 N=4		22.2			
	SHALEY LEAN CLAY WITH SAND (CL), brown and gray, very stiff to hard					█		17					
					5		X	18	7-11-8 N=19		9.8		
							X	16	8-8-11 N=19		14.8	43-13-30	75.4
					10	▽	X	18	9-9-11 N=20		12.0		
					15		X	18	13-13-21 N=34		19.4		
		18.5	623.5		X	5	50/5"		17.7				
2	SHALE, brown and gray, soft			20		█	60	REC: 100% RQD: 48%					
				25		█	48	REC: 80% RQD: 32%	1781				
		30.0	612	30									
Boring Terminated at 30 Feet													

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 ▽ 10' While drilling

Drill Rig
 CME 750X ATV

Notes

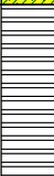
Advancement Method
 Continuous Flight Augers: 0' - 10'
 Wash Boring: 10' - 20'
 Coring: 20' - 30'

Driller
 PH

Abandonment Method
 Boring backfilled with Auger Cuttings and/or
 Bentonite

Logged by
 JP
 Boring Started
 06-09-2025
 Boring Completed
 06-09-2025

Boring Log No. B-211

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2663° Longitude: -95.9086° Northing: 467602.182 Easting: 2584991.916	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 629 (Ft.)									
1		<u>TOPSOIL</u>	1.0	628	X	14	2-3-5 N=8		19.6		
		<u>LEAN CLAY (CL)</u> , reddish brown, medium stiff to very stiff			X	7	3-4-6 N=10		16.4 19.8	44-17-27	88.5
					X	8	4-8-8 N=16		14.2		
					X	10	3-6-7 N=13		12.0		
					X	8	9-19-24 N=43		8.7	34-14-20	52.2
2		<u>SANDY SHALEY LEAN CLAY (CL)</u> , reddish brown, hard	8.5	620.5							
					X	3	7-18-50/4"		14.2		
		<u>SHALE</u> , reddish brown, moderately hard	14.5	614.5							
		<u>Boring Terminated at 18.8 Feet</u>	18.8	610.2	X		50/4"		7.7		

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

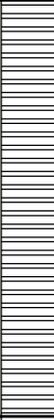
Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 05-30-2025
 Boring Completed
 05-30-2025

Boring Log No. B-212

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2663° Longitude: -95.9080° Northing: 467584.406 Easting: 2585165.454	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 625 (Ft.)									
1		<u>TOPSOIL</u> 1.0 624		X							
		<u>LEAN CLAY (CL)</u> , brown, medium stiff to stiff		X		18	2-3-5 N=8		17.3		
				X		15	3-3-6 N=9		18.5		
				X		6	4-5-7 N=12		17.8	41-13-28	91.0
			5.0 620		X		9	10-17-25 N=42		12.6	
2		<u>SHALEY LEAN CLAY (CL)</u> , brown, hard		X		24					
				X		17	6-15-50/5"		17.4		
			9.5 615.5		X		4	50/5"		8.7	
					X		7	30-40-50/1"		8.4	
		<u>SHALE</u> , brown, soft to hard		X							
			10								
			15								
			19.6 605.4								
<i>Boring Terminated at 19.6 Feet</i>											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 05-30-2025</p> <p>Boring Completed 05-30-2025</p>

Boring Log No. B-213

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2658° Longitude: -95.9081° Northing: 467408.528 Easting: 2585143.77	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Depth (Ft.) Approximate Elevation: 627 (Ft.)										
		<u>TOPSOIL</u>	626	▽								
		<u>LEAN CLAY WITH SAND (CL)</u> , dark brown, medium stiff to very stiff				X	13	4-7-9 N=16		17.7		
			623.5			X	17	2-1-6 N=7		36.2		
		<u>SHALEY LEAN CLAY WITH SAND (CL)</u> , dark brown and gray, very stiff to hard			5	X	18	7-10-11 N=21		18.6	49-15-34	82.4
				X	18	2-10-12 N=22		21.9				
				X	18	12-15-21 N=36		9.7				
2		<u>SANDSTONE</u> , gray, poorly cemented to well cemented	613.5		X	6	50/6"		9.2			
			15									
		<u>Boring Terminated at 18.7 Feet</u>	608.3		X	2	50/2"		10.7			

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations ▽ 0.5' While drilling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-214

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2657° Longitude: -95.9086° Northing: 467392.85 Easting: 2584993.616	Depth (Ft.)								Approximate Elevation: 630 (Ft.)	LL-PL-PI	Percent Fines
1		<u>TOPSOIL</u>		1.0	629								
		<u>LEAN CLAY (CL)</u> , reddish brown, soft to stiff				X	12	2-2-2 N=4		25.8			
						X	15	4-4-8 N=12		19.1			
						X	9	3-4-8 N=12		14.7			
					5		X	15	5-5-7 N=12		14.2	39-14-25	86.9
							X	12	4-7-8 N=15		14.5		
							X	11	12-14-20 N=34		14.9		
2		<u>SHALE</u> , reddish brown, soft		18.5	611.5								
		<u>SHALEY LEAN CLAY (CL)</u> , reddish brown, hard		13.5	616.5								
		<u>SHALE</u> , reddish brown, soft		18.9	611.1		X	4	50/5"		9.8		
		<i>Boring Terminated at 18.9 Feet</i>											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 05-30-2025
 Boring Completed
 05-30-2025

Boring Log No. B-215

Model Layer	Graphic Log	Location: See Exploration Plan		Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
		Latitude: 36.2658° Longitude: -95.9096° Northing: 467392.71 Easting: 2584715.616	Depth (Ft.)								Approximate Elevation: 631 (Ft.)	LL-PL-PI	Percent Fines
1		<u>TOPSOIL</u>		1.0	630								
		<u>LEAN CLAY (CL)</u> , brown, medium stiff		2.0	629	X	13	0-1-4 N=5		20.3			
		<u>SHALEY LEAN CLAY (CL)</u> , brown, very stiff to hard				X	15	5-11-17 N=28		14.6			
						X	8	5-7-13 N=20		17.0	39-15-24	88.9	
						X	12	7-8-11 N=19		12.6			
						X	12	11-13-20 N=33		11.5			
2		<u>SHALE</u> , brown, moderately hard to hard		14.5	616.5	X	10	19-41-50/1"		10.7			
				18.9	612.1	X	3	50/3"		7.9			
		<i>Boring Terminated at 18.9 Feet</i>											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller WA</p> <p>Logged by MG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-218

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2652° Longitude: -95.9095° Northing: 467192.833 Easting: 2584729.404	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
1		Depth (Ft.) Approximate Elevation: 633 (Ft.)										
		<u>TOPSOIL</u>	1.0	632								
		<u>SHALEY LEAN CLAY (CL)</u> , brown, medium stiff to hard										
					5	X	12	6-8-13 N=21		13.3		
					7	X	7	8-18-20 N=38		11.3	40-15-25	86.7
					12	X	12	4-6-6 N=12		14.4		
					18	X	18	3-3-4 N=7		17.0		
					10	X	8	3-5-10 N=15		14.7		
					15	X	11	7-10-11 N=21		10.5		
						X	6	35-50/1"		10.4		
2		19.0 614 19.1 613.9 <u>SHALE</u> , brown, hard <i>Boring Terminated at 19.1 Feet</i>										

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-219

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2652° Longitude: -95.9087° Northing: 467209.532 Easting: 2584958.504	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 629 (Ft.)									
1	TOPSOIL		1.0	628							
	LEAN CLAY (CL), tan and brown, medium stiff to stiff		3.5	625.5	X	8	2-2-6 N=8		25.8		
	SHALEY LEAN CLAY WITH SAND (CL), tan and gray, very stiff			5	X	18	2-3-6 N=9		16.8		
				5	X	18	6-9-12 N=21		18.5		
				5	X	12	6-8-15 N=23		23.4		
				10	X	18	3-8-15 N=23		14.7	38-14-24	75.8
2	SHALE, tan and gray, moderately hard to hard		14.0	615	X	6	30-50/3"		9.7		
			19.1	609.9	X	6	35-50/1"		10.4		
Boring Terminated at 19.1 Feet											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 06-03-2025
 Boring Completed
 06-03-2025

Boring Log No. B-221

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2649° Longitude: -95.9082° Northing: 467075.999 Easting: 2585126.191	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
										LL-PL-PI	Percent Fines	
		Depth (Ft.) Approximate Elevation: 627 (Ft.)										
1		<u>TOPSOIL</u>	1.0	626	X	18	3-4-7 N=11		21.7			
		<u>FAT CLAY (CH)</u> , brown and gray, stiff			X	15	3-3-7 N=10		26.2			
		<u>SHALEY FAT CLAY (CH)</u> , brown and gray, very stiff	3.5	623.5	5	X	18	9-11-12 N=23		15.3		
					X	15	5-8-13 N=21		22.3	57-20-37	89.0	
					10	X	18	8-10-12 N=22		13.9		
					15	X	18	3-4-24 N=28		24.3		
2		<u>SHALE</u> , gray, moderately hard	18.5	608.5	20	X	4	50/4"	15.8			
					25	44	REC: 73% RQD: 67%	6696				
					30	57	REC: 95% RQD: 87%					
		<i>Boring Terminated at 30 Feet</i>	30.0	597								

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
Dry to 20'

Drill Rig
CME 550 ATV

Notes

Advancement Method
Continuous Flight Augers: 0' - 20'
Coring: 20' - 30'

Driller
RP

Abandonment Method
Boring backfilled with Auger Cuttings and/or
Bentonite

Logged by
AG

Boring Started
06-10-2025

Boring Completed
06-10-2025

Boring Log No. B-222

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2648° Longitude: -95.9100° Northing: 467031.959 Easting: 2584607.07	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 634 (Ft.)									
		<u>TOPSOIL</u> 1.0 633 <u>LEAN CLAY WITH SAND (CL)</u> , brown, medium stiff to stiff									
			5		11		0-2-3 N=5		22.6		
					14		4-6-8 N=14		21.6		
					8		3-5-7 N=12		20.8	45-13-32	85.0
					15		2-4-7 N=11		20.8		
		8.5 625.5 <u>SHALEY LEAN CLAY (CL)</u> , brown, very stiff to hard									
			10		8		4-8-12 N=20		16.4		
					10		7-10-16 N=26		11.4		
					11		6-14-26 N=40		16.3		
		20.0 614 <i>Boring Terminated at 20 Feet</i>	20								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-03-2025</p> <p>Boring Completed 06-03-2025</p>

Boring Log No. B-223

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2660° Longitude: -95.9068° Northing: 467488.024 Easting: 2585526.958	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 620 (Ft.)									
1		<u>TOPSOIL</u>	1.0 619								
		<u>LEAN CLAY (CL)</u> , brown, medium stiff	2.0 618			6	2-3-4 N=7		23.9		
		<u>SHALEY LEAN CLAY (CL)</u> , brown, tan, and gray, stiff to very stiff				15	2-5-7 N=12		16.5	40-20-20	90.2
						15	6-8-8 N=16		16.4		
						18	8-13-14 N=27		12.8		
2		<u>SHALE</u> , gray, hard	9.0 611			6	24-50/1"		11.7		
						2	50/2"		6.3		
			18.7 601.3			2	50/2"		1.5		
<i>Boring Terminated at 18.7 Feet</i>											

See [Exploration and Testing Procedures](#) for a description of field and laboratory procedures used and additional data (if any).
 See [Supporting Information](#) for explanation of symbols and abbreviations.

Water Level Observations
 Groundwater not encountered during drilling and sampling

Drill Rig
 CME 55 Track

Notes

Advancement Method
 Continuous Flight Augers

Driller
 WA

Abandonment Method
 Boring backfilled with Auger Cuttings and/or Bentonite

Logged by
 MG
 Boring Started
 06-03-2025
 Boring Completed
 06-03-2025

Boring Log No. B-224

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2680° Longitude: -95.9071° Northing: 468219.063 Easting: 2585421.371	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 624 (Ft.)									
1		<u>TOPSOIL</u>	1.0	623							
		<u>FAT CLAY (CH)</u> , brown and gray, stiff			X	16	4-5-4 N=9		24.3	66-17-49	90.2
					X	15	2-4-6 N=10		20.1		
					X	18	3-5-8 N=13		19.2		
					X	12	3-3-7 N=10		21.5		
			5								
					X	18	24-35-50 N=85		12.9		
			10								
2		<u>SHALEY FAT CLAY (CH)</u> , brown and gray, hard	8.5	615.5							
		<u>SHALE</u> , gray	10.0	614	█	20	REC: 33% ROD: 0%				
					█	6	REC: 10% ROD: 0%				
			15								
			20.0	604							
		<i>Boring Terminated at 20 Feet</i>	20								

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 20'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller RP</p> <p>Logged by AG</p> <p>Boring Started 06-10-2025</p> <p>Boring Completed 06-10-2025</p>

Boring Log No. B-225

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2684° Longitude: -95.9075° Northing: 468363.625 Easting: 2585294.328	Depth (Ft.)	Elevation: 625 (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits		
											LL-PL-PI	Percent Fines	
1		1.0	624										
		<u>TOPSOIL</u>											
		FAT CLAY (CH), brown, stiff to very stiff				X	14	2-5-7 N=12	21.2				
						X	18	5-7-7 N=14	19.7	59-15-44	87.8		
						X	13	5-8-9 N=17	23.6				
2		8.5	616.5										
		SHALEY FAT CLAY (CH), brown and gray, hard				X	18	15-20-27 N=47	17.0				
		13.5	611.5										
		SANDSTONE, gray, cemented				X	4	50/4"	7.8				
		18.9	606.1										
		Boring Terminated at 18.9 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 550 ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller RP</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by AG</p> <p>Boring Started 06-05-2025</p> <p>Boring Completed 06-05-2025</p>

Boring Log No. B-226

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2658° Longitude: -95.9118° Northing: 467380.366 Easting: 2584059.692	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
1	TOPSOIL		1.0								
	LEAN CLAY WITH SAND (CL), brown, soft to medium stiff	Approximate Elevation: 648 (Ft.)	647								
				5	X	13		0-1-2 N=3	21.7		
					X	6		2-2-1 N=3	23.8		
					X	12		1-2-1 N=3	28.9		
					X	13		2-3-2 N=5	20.3	46-14-32	80.8
				10	X	12		2-3-5 N=8	24.0		
			15	X	18		2-2-5 N=7	19.1			
			18.5								
	SHALEY LEAN CLAY (CL), brown, hard	629.5									
			20.0								
		628	20								
Boring Terminated at 20 Feet											

<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Groundwater not encountered during drilling and sampling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers</p>	<p>Driller WA</p>
	<p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Logged by MG</p> <p>Boring Started 06-02-2025</p> <p>Boring Completed 06-02-2025</p>

Boring Log No. B-227

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2661° Longitude: -95.9125° Northing: 467517.089 Easting: 2583835.241	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	
										LL-PL-PI	Percent Fines
		Depth (Ft.) Approximate Elevation: 658 (Ft.)									
1		<u>TOPSOIL</u>	1.0	657							
		<u>SANDY LEAN CLAY (CL)</u> , brown to dark brown and gray, medium stiff			5	18	2-2-3 N=5	20.8			
					18	2-2-4 N=6	22.6				
					18	2-3-4 N=7	21.6				
					14	1-3-5 N=8	19.9				
			10	18	1-4-4 N=8	19.6	33-17-16	56.3			
2		<u>CLAYEY SAND (SC)</u> , brown and gray, medium dense	13.5	644.5	15	18	7-8-15 N=23	19.9			
		<u>SANDSTONE</u> , brown and gray, cemented	18.5	639.5	20	9	35-50/3"	18.2			
		<u>SANDSTONE</u> , brown and gray, cemented	25.0	633	25	50	REC: 83% RQD: 32%				
		<i>Boring Terminated at 25 Feet</i>									

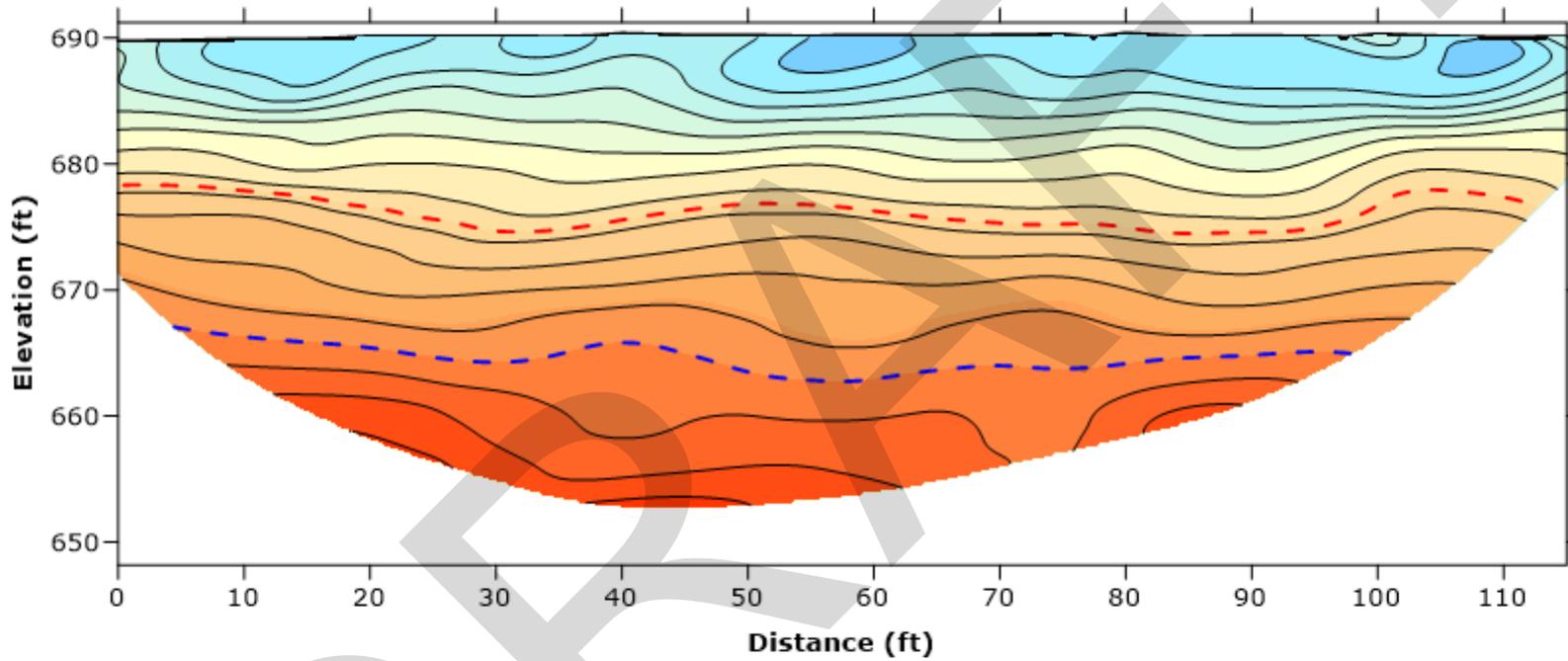
<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations 18.5' While drilling</p>	<p>Drill Rig CME 55 Track</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 20' Coring: 20' - 25'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller WA</p> <p>Logged by MG</p> <p>Boring Started 06-06-2025</p> <p>Boring Completed 06-06-2025</p>

Boring Log No. B-228

Model Layer	Graphic Log	Location: See Exploration Plan Latitude: 36.2773° Longitude: -95.9126° Northing: 471575.626 Easting: 2583729.214	Depth (Ft.)	Water Level Observations	Sample Type	Recovery (%)	Field Test Results	Unconfined Compressive Strength (psi)	Water Content (%)	Atterberg Limits	Percent Fines
										LL-PL-PI	
2		Depth (Ft.) Approximate Elevation: 691 (Ft.)									
		<u>SHALE</u> , gray (<i>continued</i>)	35			60	REC: 100% ROD: 78%	4475			
		40.0 651	40			60	ROD: 100% ROD: 100%	4861			
		<i>Boring Terminated at 40 Feet</i>									

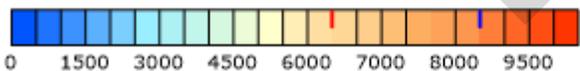
<p>See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (if any).</p> <p>See Supporting Information for explanation of symbols and abbreviations.</p>	<p>Water Level Observations Dry to 10'</p>	<p>Drill Rig CME 750X ATV</p>
<p>Notes</p>	<p>Advancement Method Continuous Flight Augers: 0' - 10' Coring: 10' - 40'</p> <p>Abandonment Method Boring backfilled with Auger Cuttings and/or Bentonite</p>	<p>Driller PH</p> <p>Logged by JP</p> <p>Boring Started 06-12-2025</p> <p>Boring Completed 06-12-2025</p>

SR-1EW



- - Up to 6,300 ft/s rippable with D8R/D8T
- - Up to 8,500 ft/s marginally rippable with D8R/D8T
Velocities over this threshold may be unrippable

P-Wave Velocity (ft/s) - CI = 1000



Date: 06/2025 | Project Number: 04255087

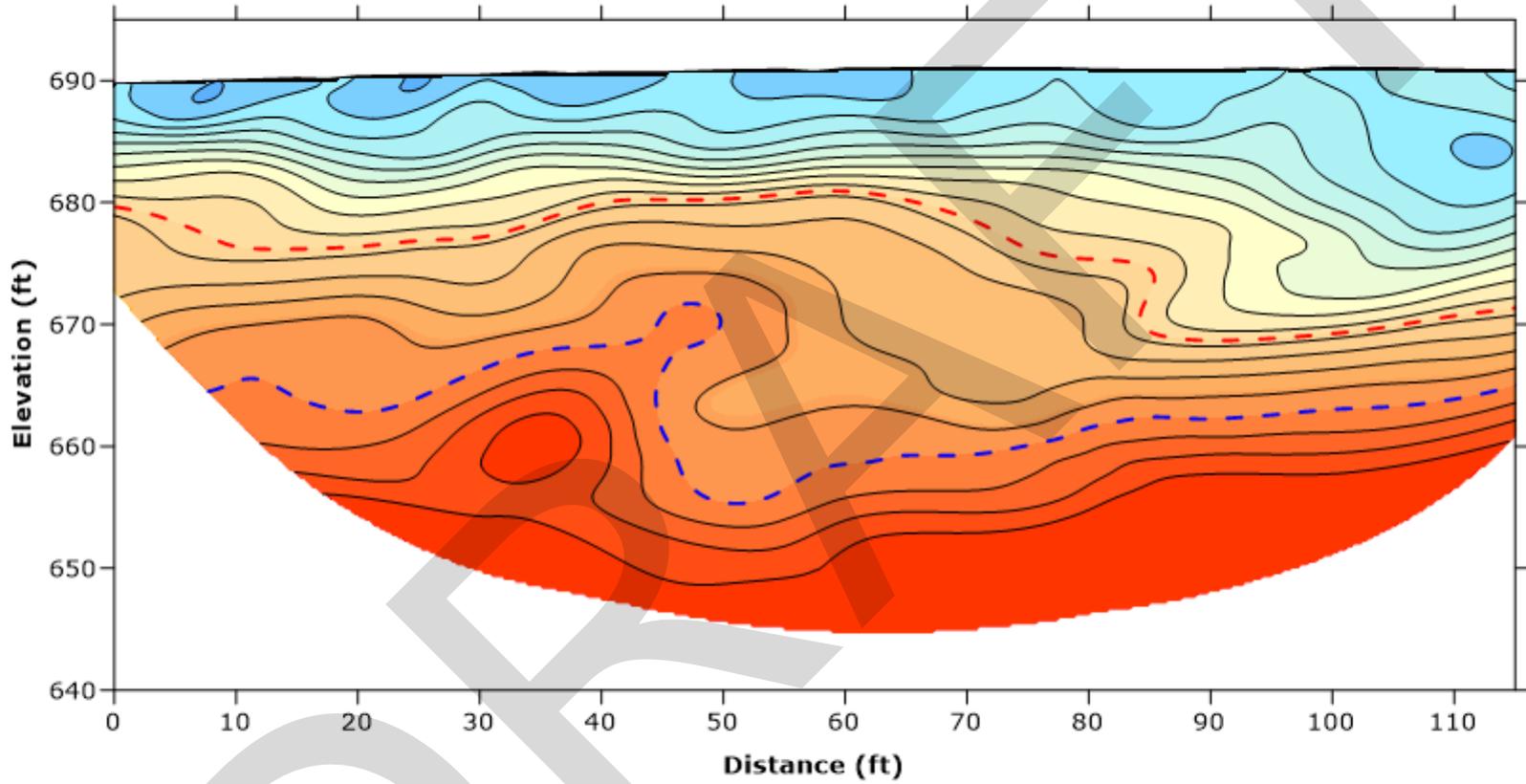
Seismic Refraction Results - SR-1EW

Exhibit

Project Clydesdale Design Level
Sperry, Oklahoma

2

SR-1NS



- - Up to 6,300 ft/s rippable with D8R/D8T
 - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

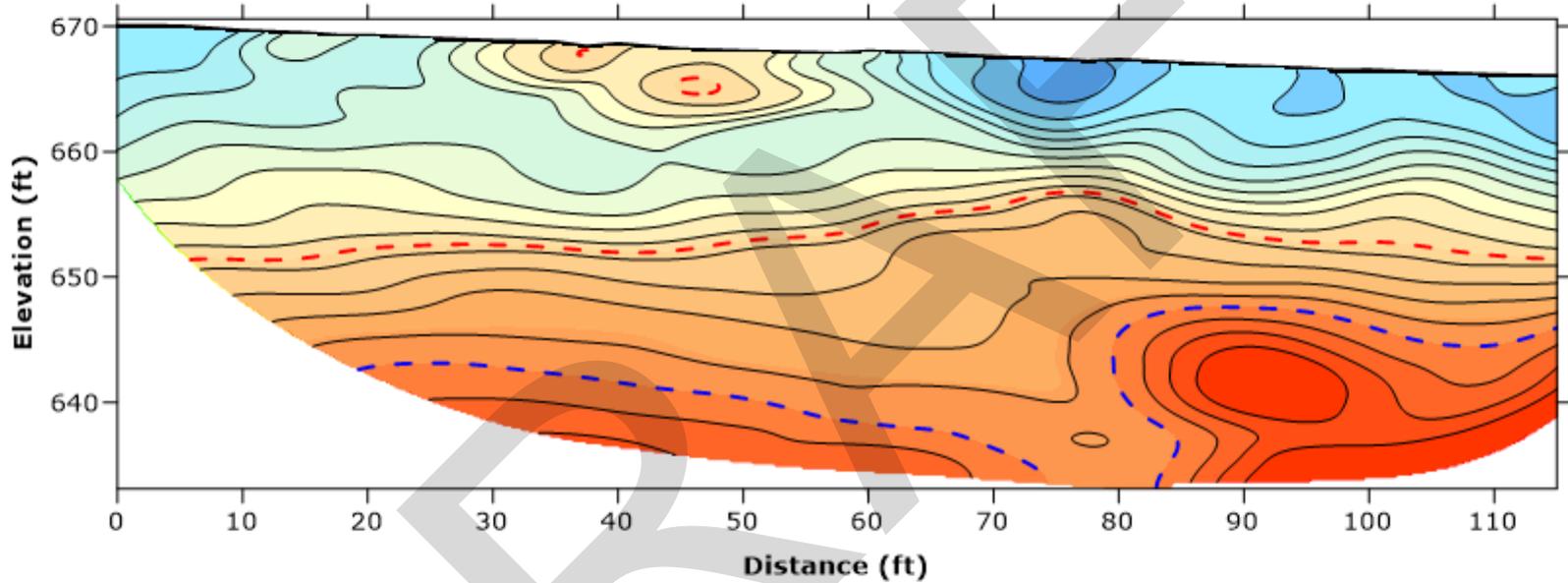
Seismic Refraction Results - SR-1NS

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

3

SR-2



--- Up to 6,300 ft/s rippable with D8R/D8T
--- Up to 8,500 ft/s marginally rippable with D8R/D8T
Velocities over this threshold may be unrippable

P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

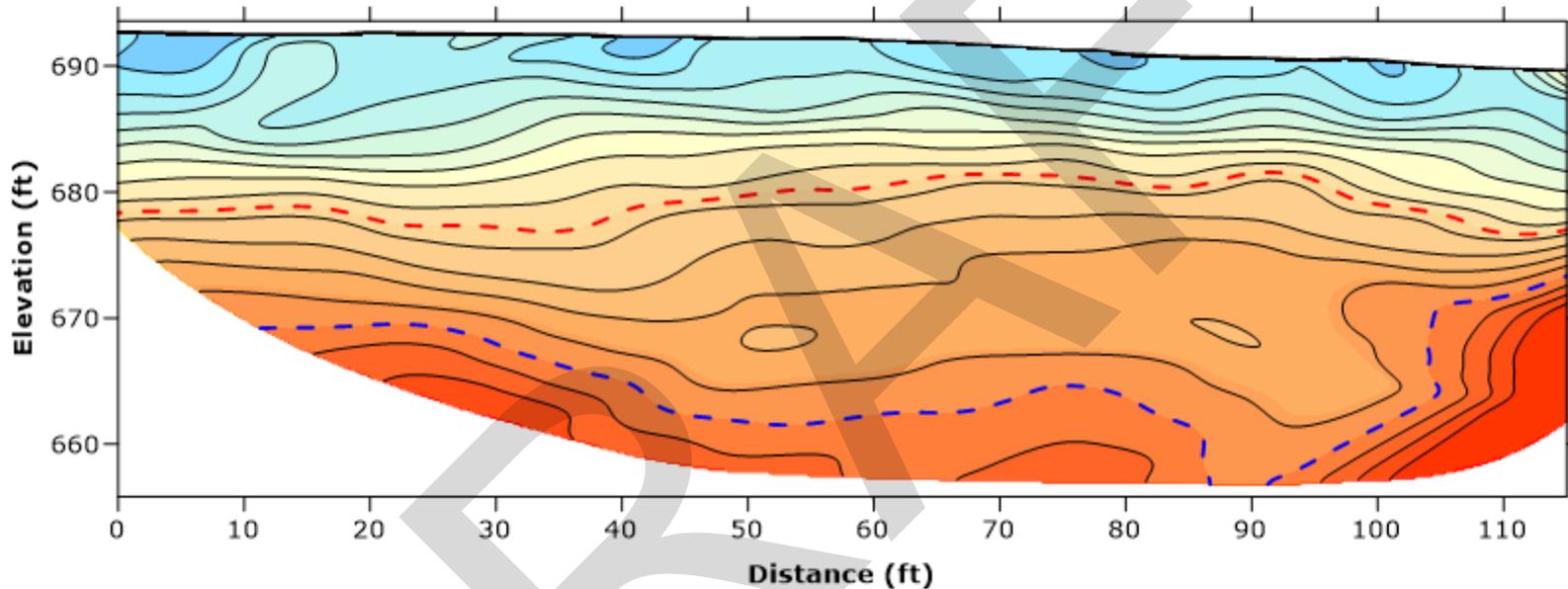
Seismic Refraction Results - SR-2

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

4

SR-3EW



- - - Up to 6,300 ft/s rippable with D8R/D8T
 - - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

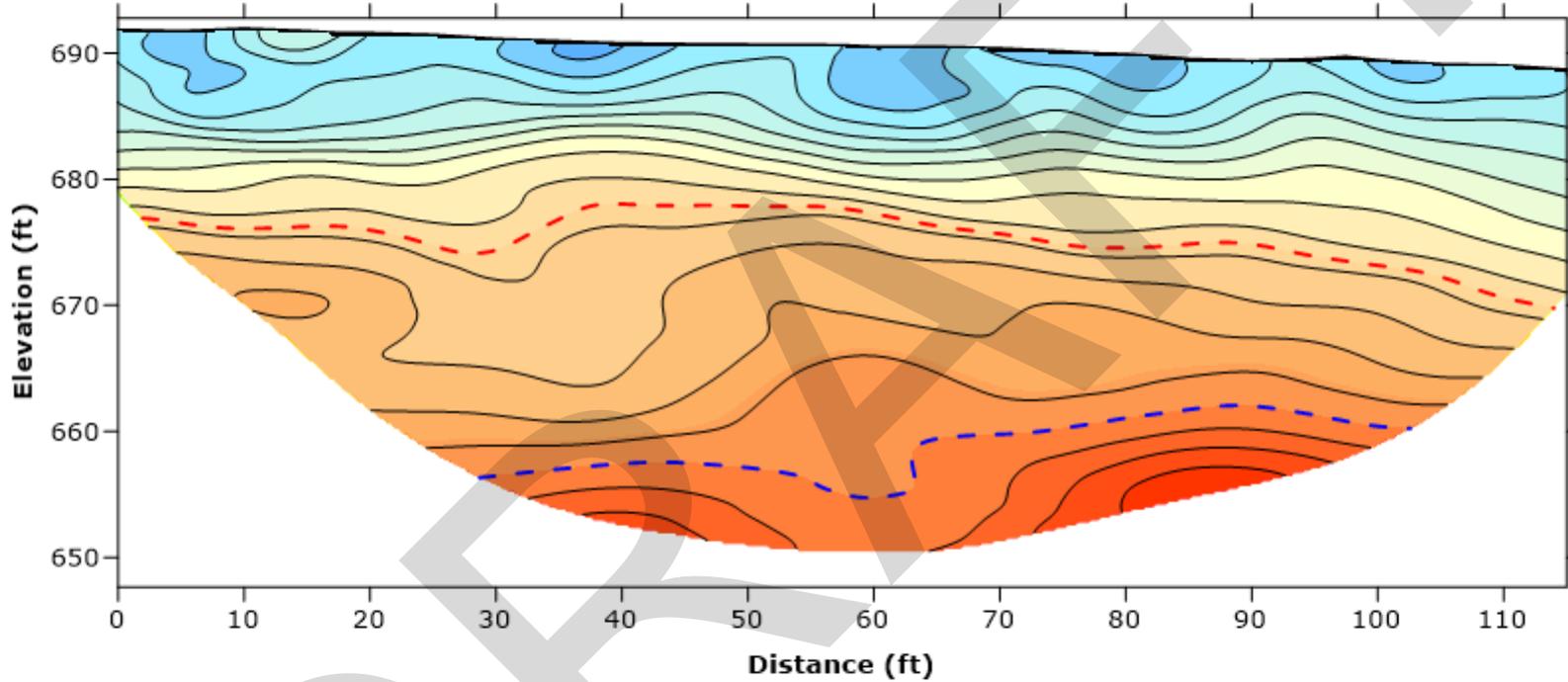
Seismic Refraction Results - SR-3EW

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

5

SR-3NS



- - - Up to 6,300 ft/s rippable with D8R/D8T
 - - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

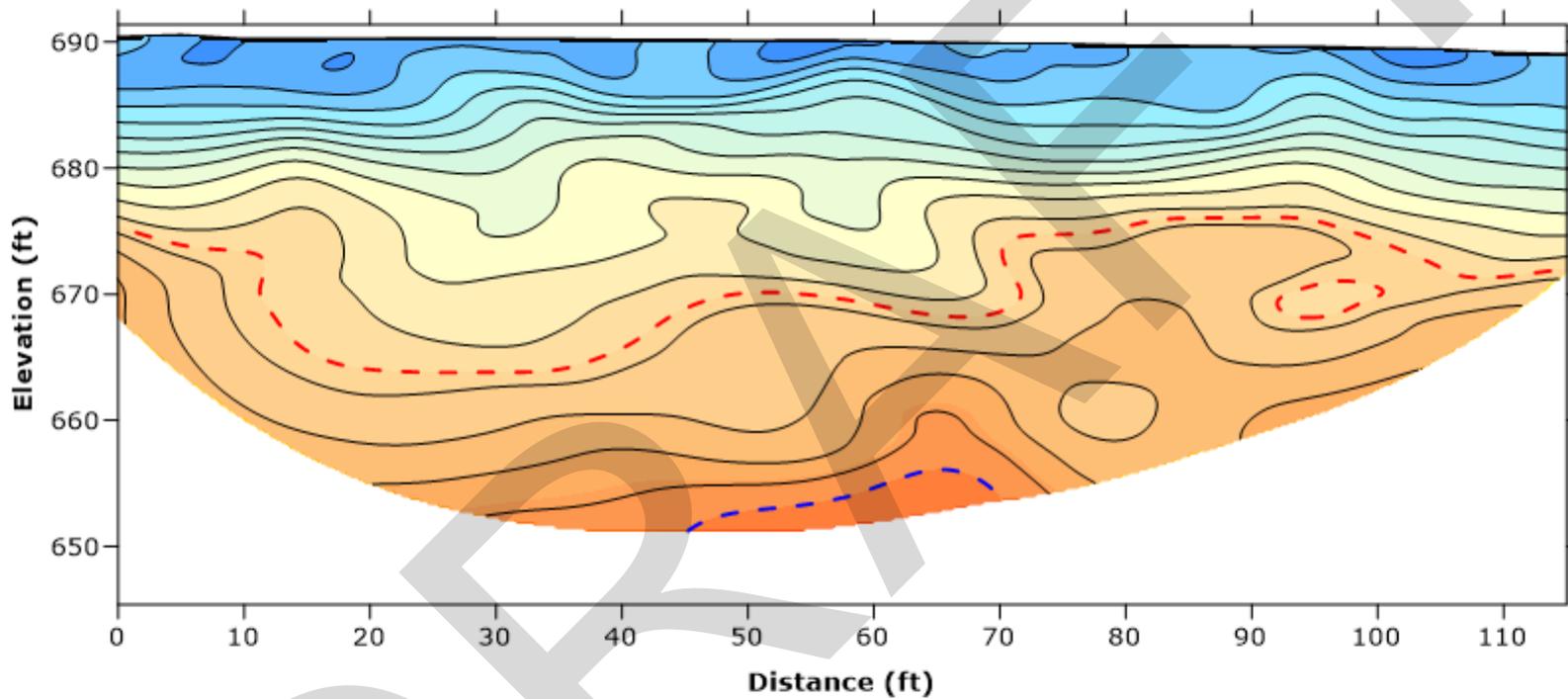
Seismic Refraction Results - SR-3NS

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

6

SR-4



- - - Up to 6,300 ft/s rippable with D8R/D8T
 - - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

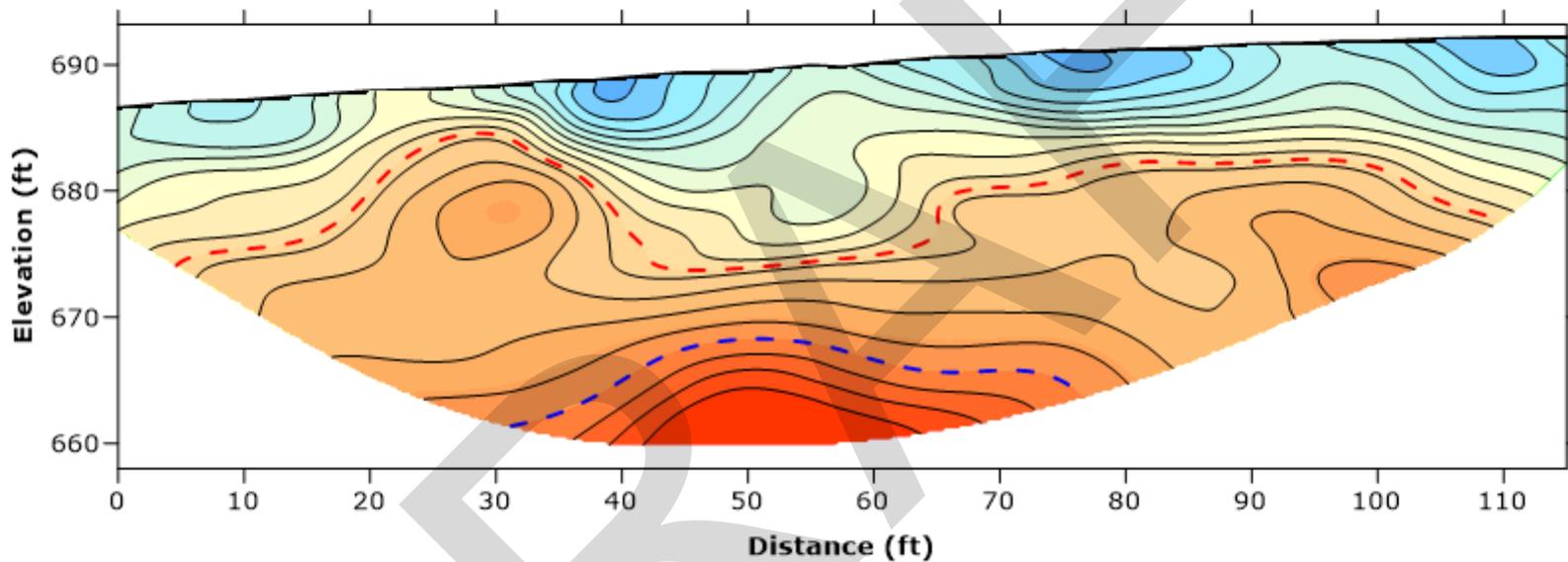
Seismic Refraction Results - SR-4

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

7

SR-5



- - Up to 6,300 ft/s rippable with D8R/D8T
 - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

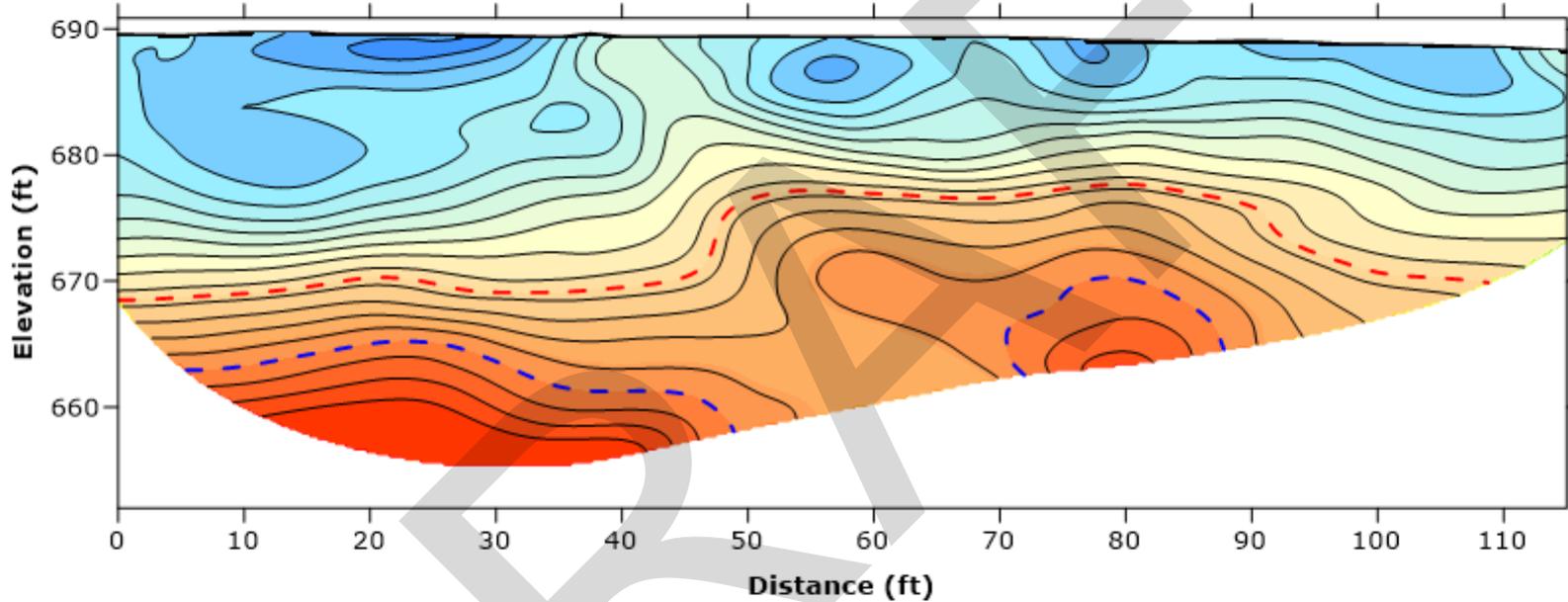
Seismic Refraction Results - SR-5

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

8

SR-6



- - - Up to 6,300 ft/s rippable with D8R/D8T
- - - Up to 8,500 ft/s marginally rippable with D8R/D8T
Velocities over this threshold may be unrippable

P-Wave Velocity (ft/s) - CI = 1000



Date: 06/2025 | Project Number: 04255087

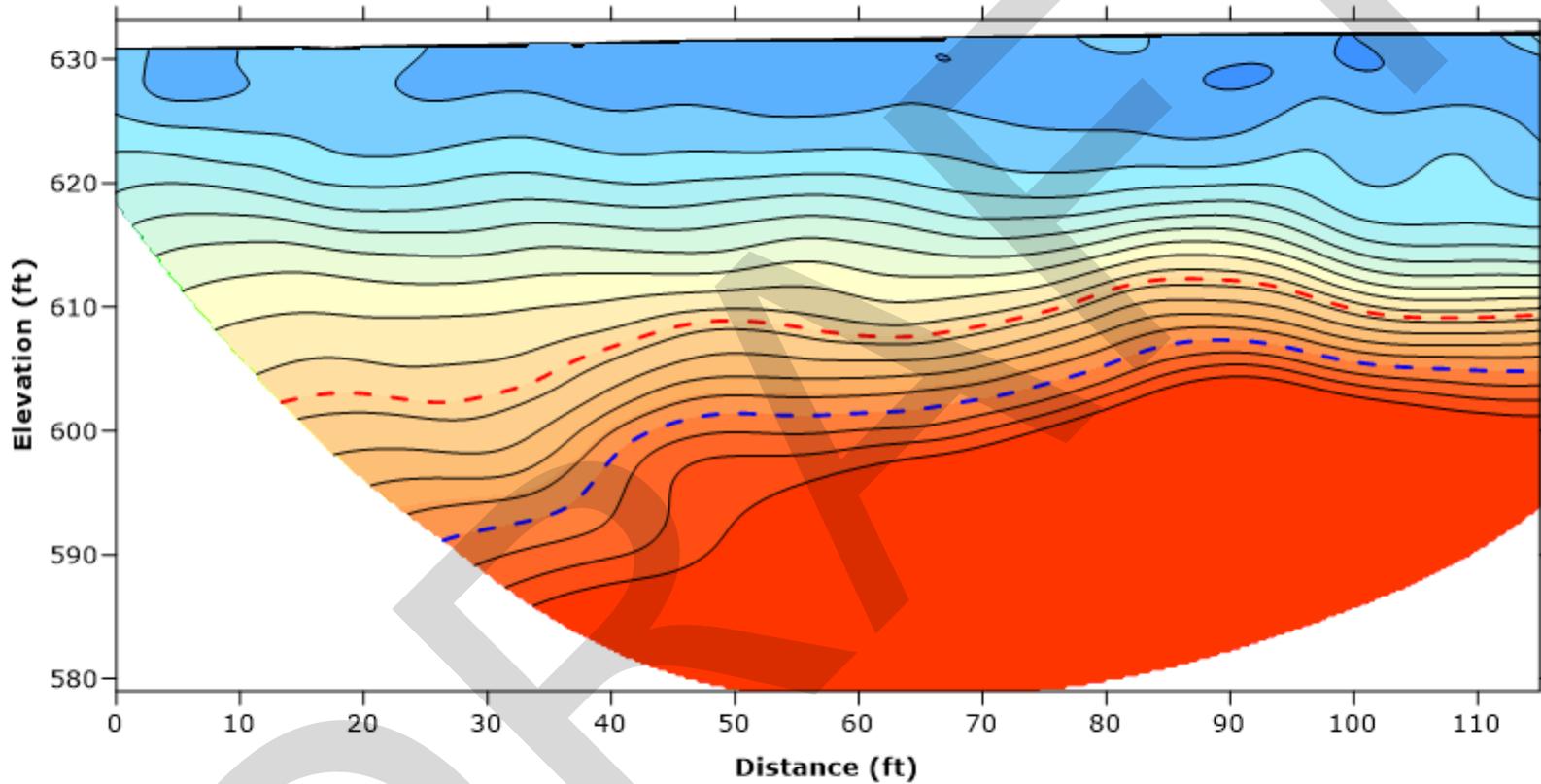
Seismic Refraction Results - SR-6

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

9

SR-7



- - - Up to 6,300 ft/s rippable with D8R/D8T
 - - - Up to 8,500 ft/s marginally rippable with D8R/D8T
 Velocities over this threshold may be unrippable
 P-Wave Velocity (ft/s) - CI = 1000

0 1500 3000 4500 6000 7000 8000 9500



Date: 06/2025 | Project Number: 04255087

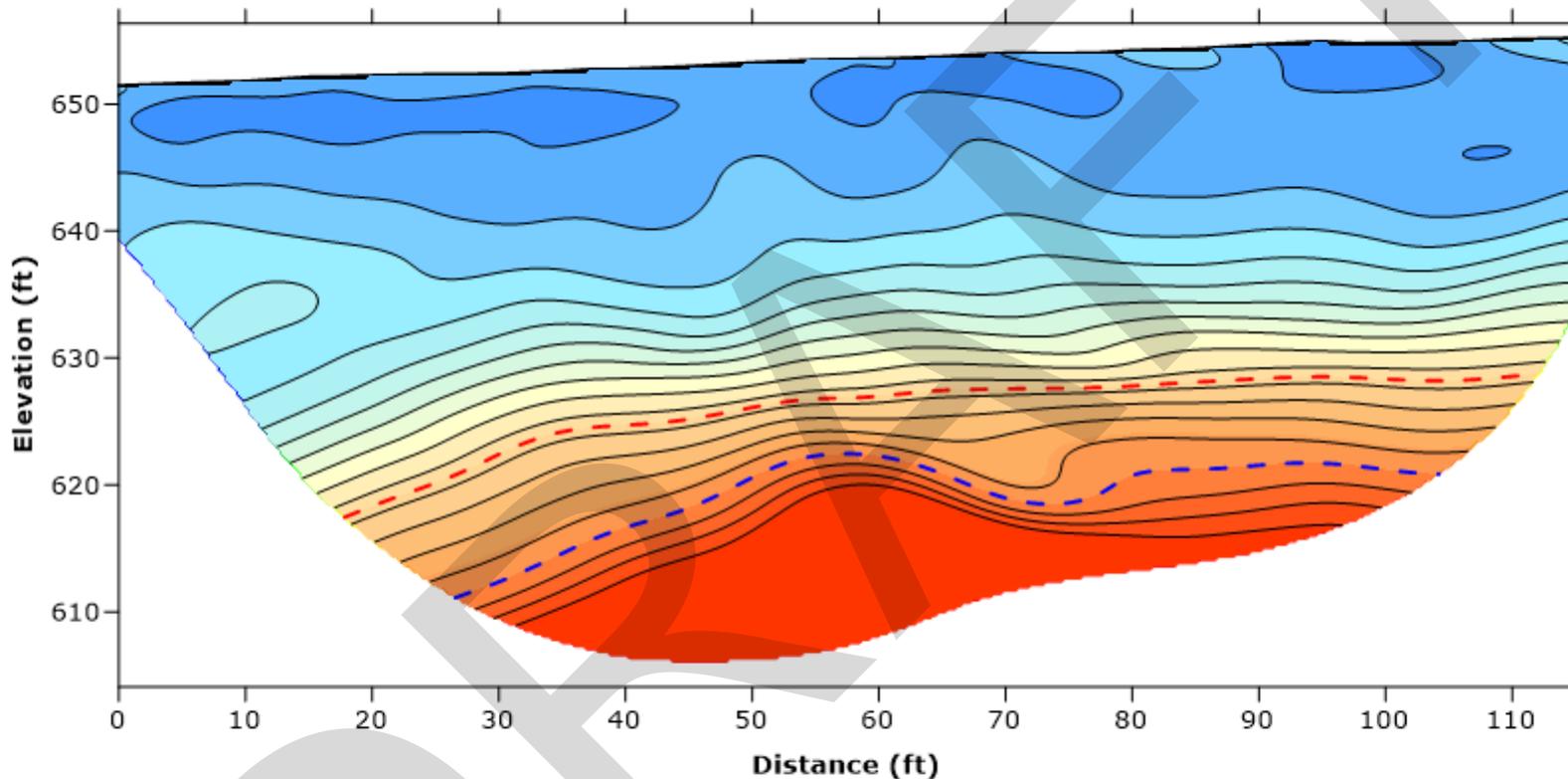
Seismic Refraction Results - SR-7

Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

10

SR-8



- - Up to 6,300 ft/s rippable with D8R/D8T
- - Up to 8,500 ft/s marginally rippable with D8R/D8T
Velocities over this threshold may be unrippable

P-Wave Velocity (ft/s) - CI = 1000



Date: 06/2025 | Project Number: 04255087

Seismic Refraction Results - SR-8

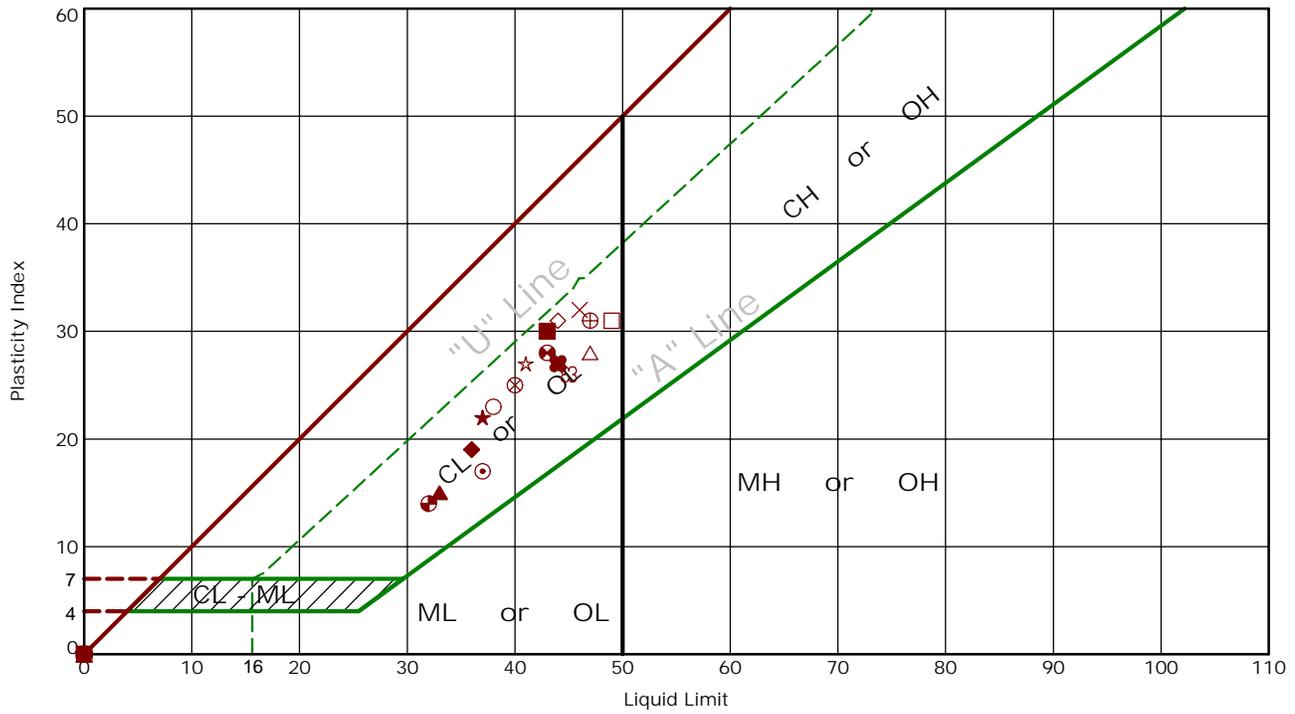
Project Clydesdale Design Level
Sperry, Oklahoma

Exhibit

10

Atterberg Limit Results

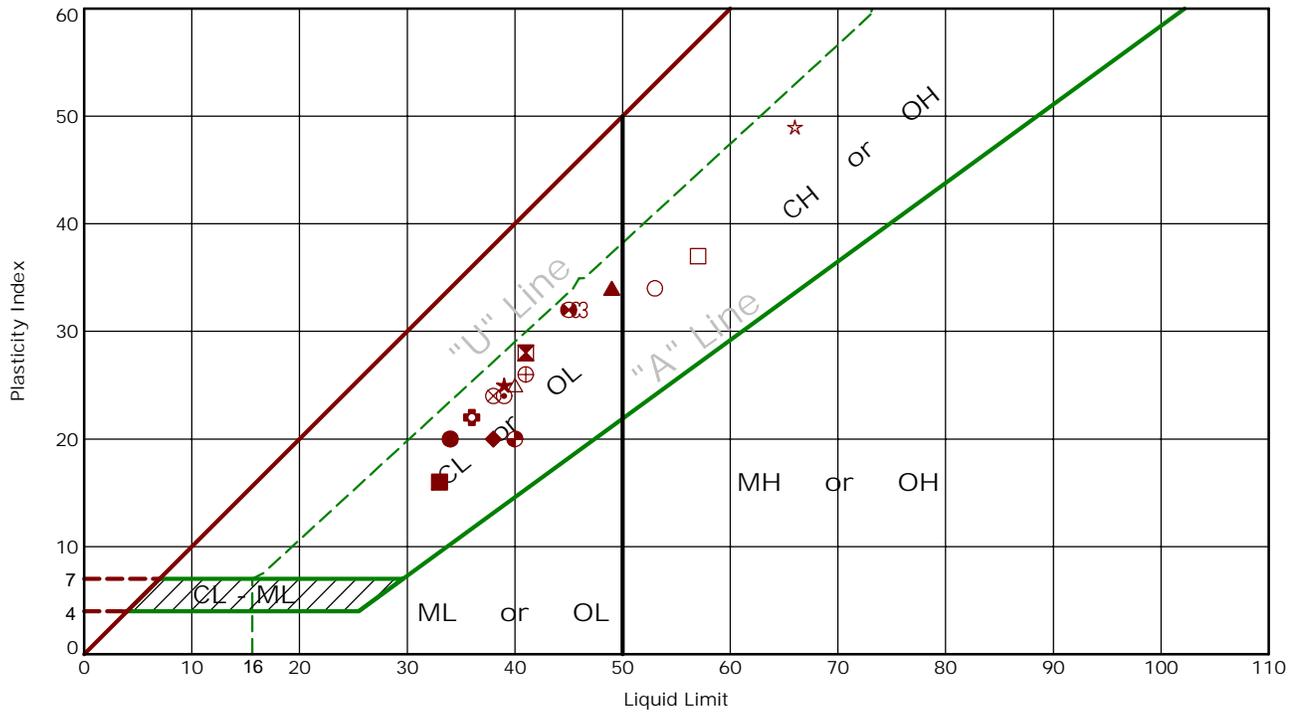
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-192	0.5 - 1.6	NP	NP	NP	50.4	ML	SANDY SILT
⊠	B-193	3.5 - 5	NP	NP	NP	49.1	SM	SILTY SAND
▲	B-194	13.5 - 15	33	18	15	67.6	CL	SANDY LEAN CLAY
★	B-195	3.5 - 5	37	15	22	77.3	CL	LEAN CLAY with SAND
⊙	B-196	5 - 6.5	37	20	17	59.0	CL	SANDY LEAN CLAY
⊕	B-197	2 - 3.5	NP	NP	NP	40.6	SM	SILTY SAND
○	B-199	8.5 - 10	38	15	23	86.3	CL	LEAN CLAY
△	B-200	0.5 - 2	47	19	28	90.4	CL	LEAN CLAY
⊗	B-200	8.5 - 10	40	15	25	89.8	CL	LEAN CLAY
⊕	B-201	5 - 6.5	47	16	31	90.1	CL	LEAN CLAY
□	B-202	2 - 3.5	49	18	31	87.5	CL	LEAN CLAY
⊕	B-203	0.5 - 2	43	15	28	86.7	CL	LEAN CLAY
⊕	B-204	8.5 - 10	32	18	14	56.1	CL	SANDY LEAN CLAY
★	B-205	5 - 6.5	41	14	27	84.7	CL	LEAN CLAY with SAND
⊗	B-206	13.5 - 15	45	19	26	94.3	CL	LEAN CLAY
■	B-207	5 - 6.5	43	13	30	75.4	CL	LEAN CLAY with SAND
◆	B-208	2 - 3.5	36	17	19	74.9	CL	LEAN CLAY with SAND
◇	B-209	5 - 6.5	44	13	31	85.9	CL	LEAN CLAY
⊗	B-210	2 - 3.5	46	14	32	85.2	CL	LEAN CLAY
⊕	B-211	2 - 3.5	44	17	27	88.5	CL	LEAN CLAY

Atterberg Limit Results

ASTM D4318

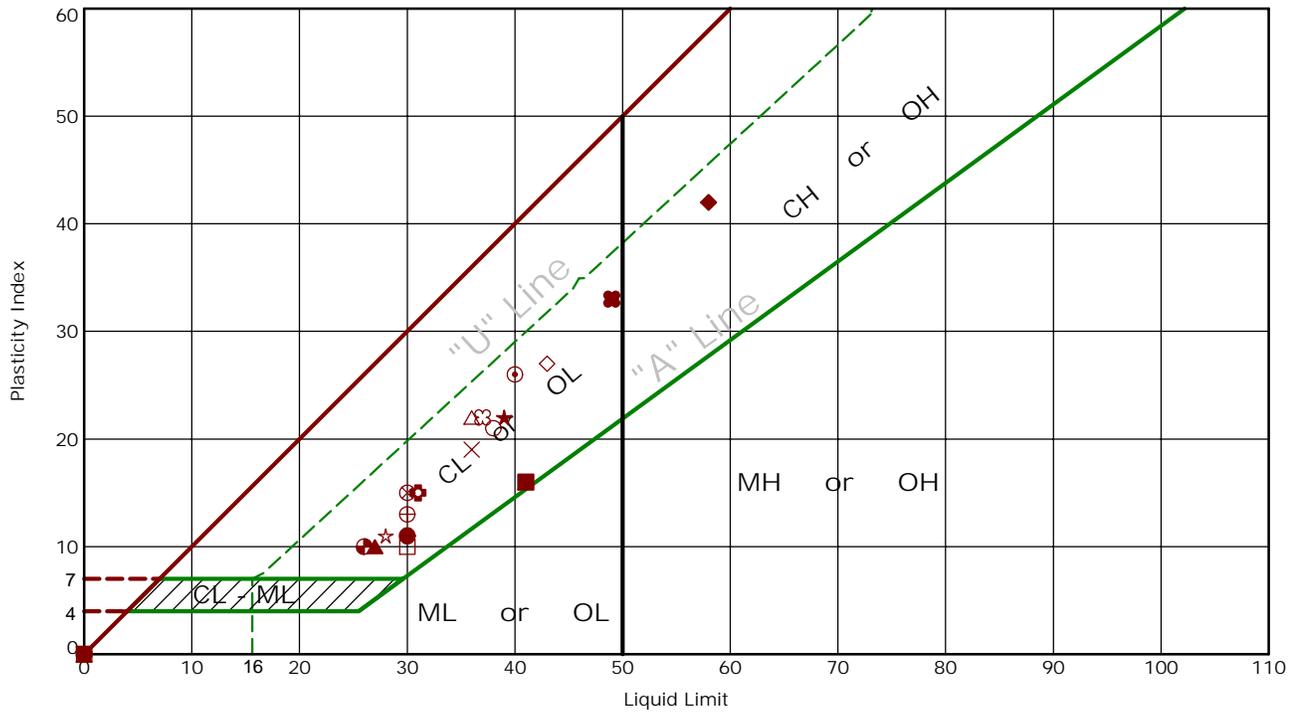


	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-211	8.5 - 10	34	14	20	52.2	CL	SANDY LEAN CLAY
⊠	B-212	3.5 - 5	41	13	28	91.0	CL	LEAN CLAY
▲	B-213	3.5 - 5	49	15	34	82.4	CL	LEAN CLAY with SAND
★	B-214	5 - 6.5	39	14	25	86.9	CL	LEAN CLAY
⊙	B-215	3.5 - 5	39	15	24	88.9	CL	LEAN CLAY
⊕	B-216	13.5 - 15	36	14	22	88.8	CL	LEAN CLAY
○	B-217	3.5 - 5	53	19	34	88.3	CH	FAT CLAY
△	B-218	2 - 3.5	40	15	25	86.7	CL	LEAN CLAY
⊗	B-219	8.5 - 10	38	14	24	75.8	CL	LEAN CLAY with SAND
⊕	B-220	5 - 6.5	41	15	26	71.0	CL	LEAN CLAY with SAND
□	B-221	5 - 6.5	57	20	37	89.0	CH	FAT CLAY
⊕	B-222	3.5 - 5	45	13	32	85.0	CL	LEAN CLAY with SAND
⊕	B-223	2 - 3.5	40	20	20	90.2	CL	LEAN CLAY
★	B-224	0.5 - 2	66	17	49	90.2	CH	FAT CLAY
⊗	B-226	5 - 6.5	46	14	32	80.8	CL	LEAN CLAY with SAND
■	B-227	8.5 - 10	33	17	16	56.3	CL	SANDY LEAN CLAY
◆	B-228	2 - 3.5	38	18	20	77.1	CL	LEAN CLAY with SAND

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Atterberg Limit Results

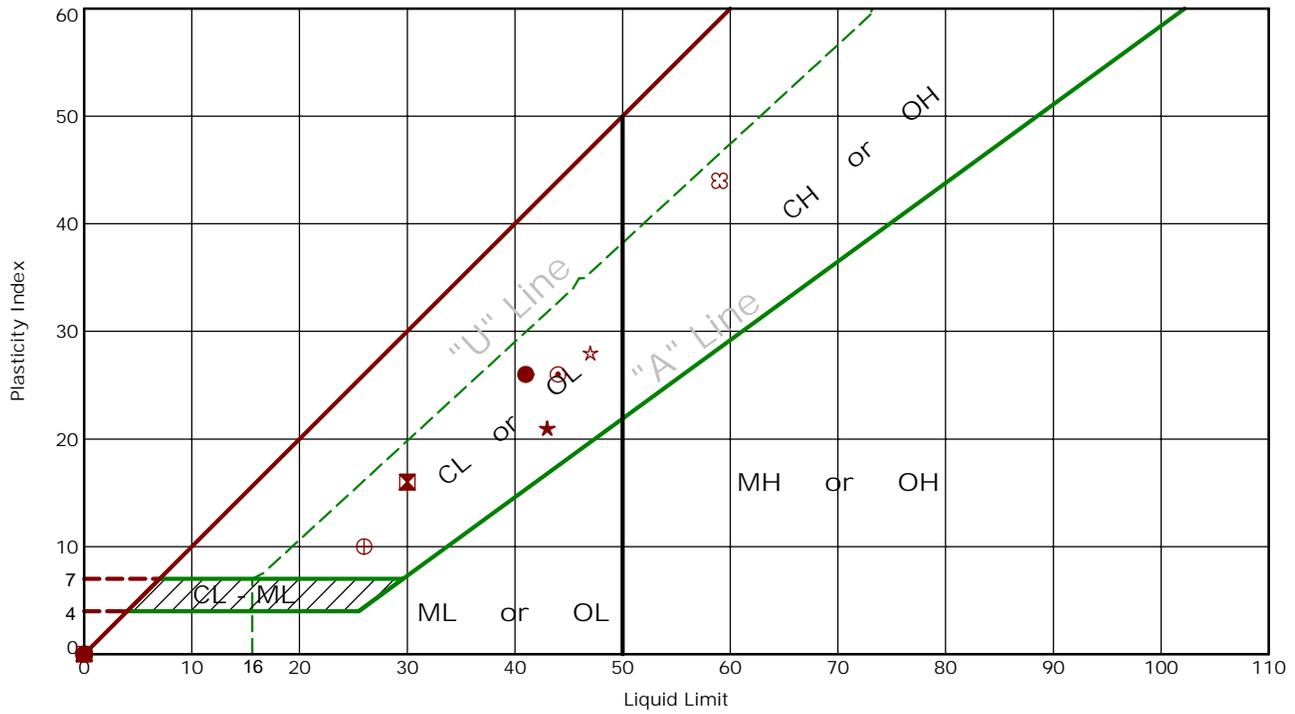
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-156	2 - 3.5	30	19	11	83.2	CL	LEAN CLAY with SAND
⊠	B-157	0.5 - 2	NP	NP	NP	57.0	ML	SANDY SILT
▲	B-158	3.5 - 5	27	17	10	92.4	CL	LEAN CLAY
★	B-159	3.5 - 5	39	17	22	75.1	CL	LEAN CLAY with SAND
⊙	B-160	0.5 - 2	40	14	26	81.2	CL	LEAN CLAY with SAND
⊕	B-161	8.5 - 10	31	16	15	76.3	CL	LEAN CLAY with SAND
○	B-162	5 - 6.5	38	17	21	82.8	CL	LEAN CLAY with SAND
△	B-163	0.5 - 2	36	14	22	81.2	CL	LEAN CLAY with SAND
⊗	B-164	2 - 3.5	30	15	15	76.0	CL	LEAN CLAY with SAND
⊕	B-164	6.5 - 8.5	30	17	13	88.3	CL	LEAN CLAY
□	B-165	2 - 3.5	30	20	10	85.3	CL	LEAN CLAY
⊕	B-166	0.5 - 2	NP	NP	NP	58.3	ML	SANDY SILT
⊕	B-167	2 - 3.5	26	16	10	72.7	CL	LEAN CLAY with SAND
★	B-168	5 - 6.5	28	17	11	64.2	CL	SANDY LEAN CLAY
⊗	B-169	5 - 6.5	37	15	22	81.2	CL	LEAN CLAY with SAND
■	B-170	3.5 - 5	41	25	16	99.6	CL	LEAN CLAY
◆	B-171	1 - 1	58	16	42			
◇	B-171	2 - 3.5	43	16	27	86.3	CL	LEAN CLAY
⊗	B-171	5 - 6.5	36	17	19	94.6	CL	LEAN CLAY
⊕	B-171	6.5 - 8.5	49	16	33			

Atterberg Limit Results

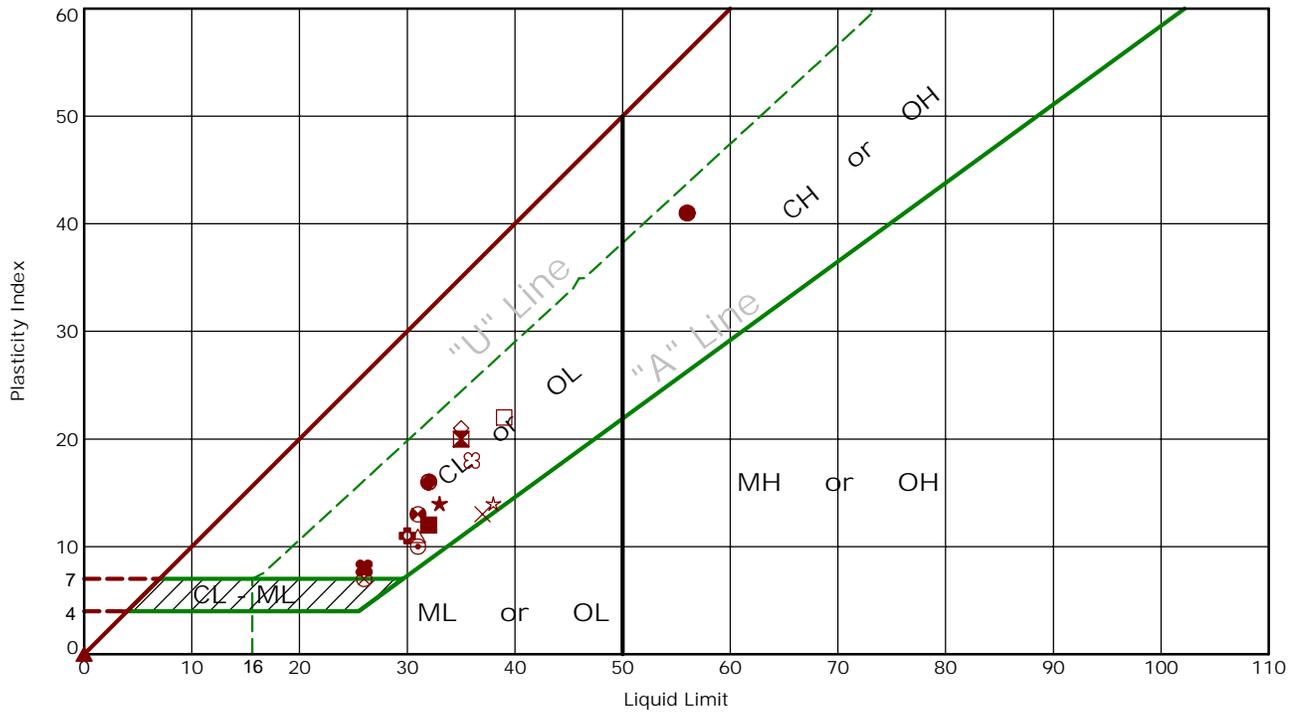
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-172	2 - 3.5	41	15	26	59.4	CL	SANDY LEAN CLAY
⊠	B-173	3.5 - 5	30	14	16	63.9	CL	SANDY LEAN CLAY
▲	B-176	0.5 - 2	NP	NP	NP	37.8	SM	SILTY SAND
★	B-178	8.5 - 10	43	22	21	99.0	CL	LEAN CLAY
⊙	B-180	2 - 3.5	44	18	26	83.3	CL	LEAN CLAY with SAND
⊕	B-181	0.5 - 2	NP	NP	NP	33.4	SM	SILTY SAND
○	B-183	0.5 - 2	NP	NP	NP	37.4	SM	SILTY SAND
△	B-185	2 - 3.5	NP	NP	NP	38.5	SM	SILTY SAND
⊗	B-187	0.5 - 1.3	NP	NP	NP			
⊕	B-188	0.5 - 1.3	26	16	10	49.9	SC	CLAYEY SAND
□	B-189	2 - 3.5	NP	NP	NP	57.6	ML	SANDY SILT
⊕	B-190	0.5 - 2	NP	NP	NP	39.5	SM	SILTY SAND
⊕	B-191	3.5 - 5	NP	NP	NP	72.4	ML	SILT with SAND
★	B-225	2 - 3.5	47	19	28	87.8	CL	LEAN CLAY
⊗	B-225	6.5	59	15	44	89.9	CH	FAT CLAY

Atterberg Limit Results

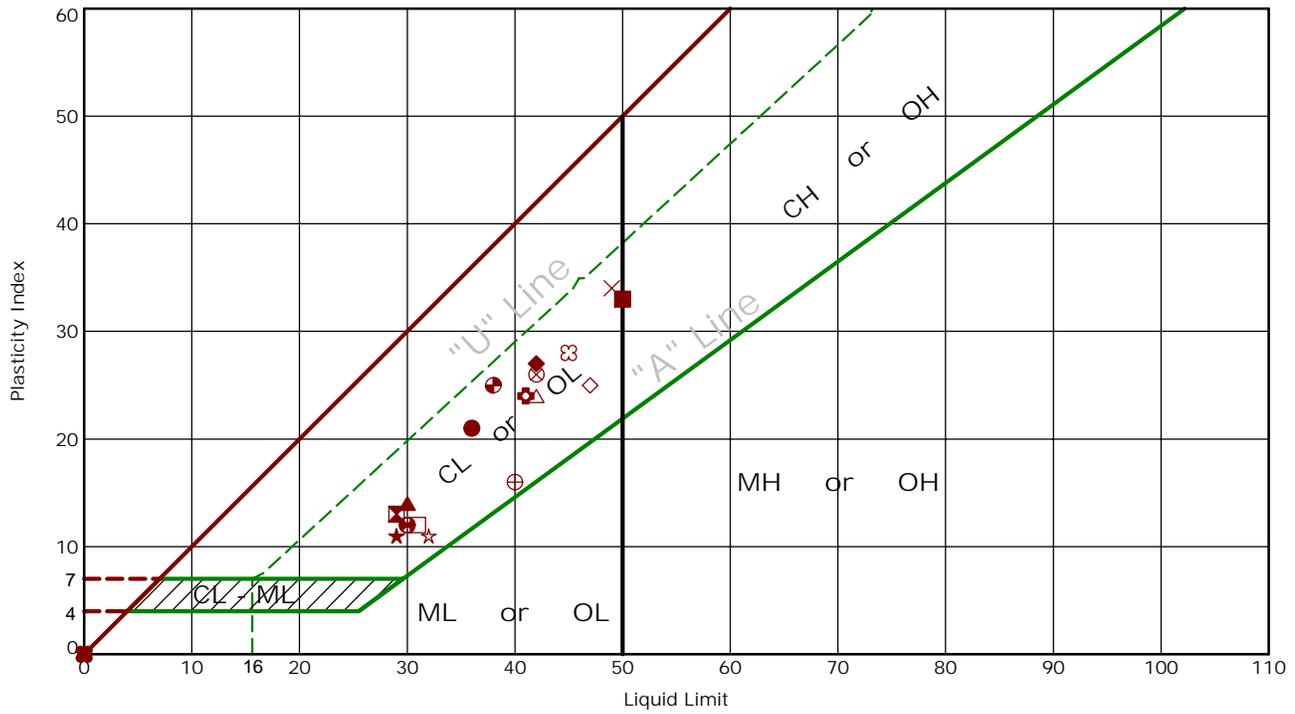
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-101	2 - 3.5	56	15	41	83.4	CH	FAT CLAY with SAND
⊠	B-101	5 - 5.6	35	15	20	80.9	CL	LEAN CLAY with SAND
▲	B-102	0.5 - 2	NP	NP	NP		CL	LEAN CLAY
★	B-103	0.5 - 2	33	19	14	77.2	CL	LEAN CLAY with SAND
⊙	B-105	0.5 - 2	31	21	10	84.5	CL	LEAN CLAY with SAND
⊕	B-106	5 - 6.5	30	19	11	84.3	CL	LEAN CLAY with SAND
○	B-107	2 - 3.5	32	16	16	97.7	CL	LEAN CLAY
△	B-108A	3.5 - 5	31	20	11	75.0	CL	LEAN CLAY with SAND
⊗	B-109	2 - 3.5	26	19	7	58.5	CL-ML	SANDY SILTY CLAY
⊕	B-111A	3.5 - 5	32	16	16	86.9	CL	LEAN CLAY
□	B-112	0.5 - 2	39	17	22	66.4	CL	SANDY LEAN CLAY
⊕	B-113A	3.5 - 5	31	18	13	89.8	CL	LEAN CLAY
⊕	B-115A	5 - 6.5	32	16	16	90.1	CL	LEAN CLAY
★	B-116A	5 - 6.5	38	24	14			
⊗	B-117	5 - 6.5	36	18	18	98.9	CL	LEAN CLAY
■	B-118	0.5 - 2	32	20	12	97.1	CL	LEAN CLAY
◆	B-119	2 - 3.5	32	16	16	87.3	CL	LEAN CLAY
◇	B-121A	5 - 6.5	35	14	21	74.3	CL	LEAN CLAY with SAND
×	B-123	2 - 3.5	37	24	13	96.9	CL	LEAN CLAY
⊕	B-124A	0.5 - 2	26	18	8	98.3	CL	LEAN CLAY

Atterberg Limit Results

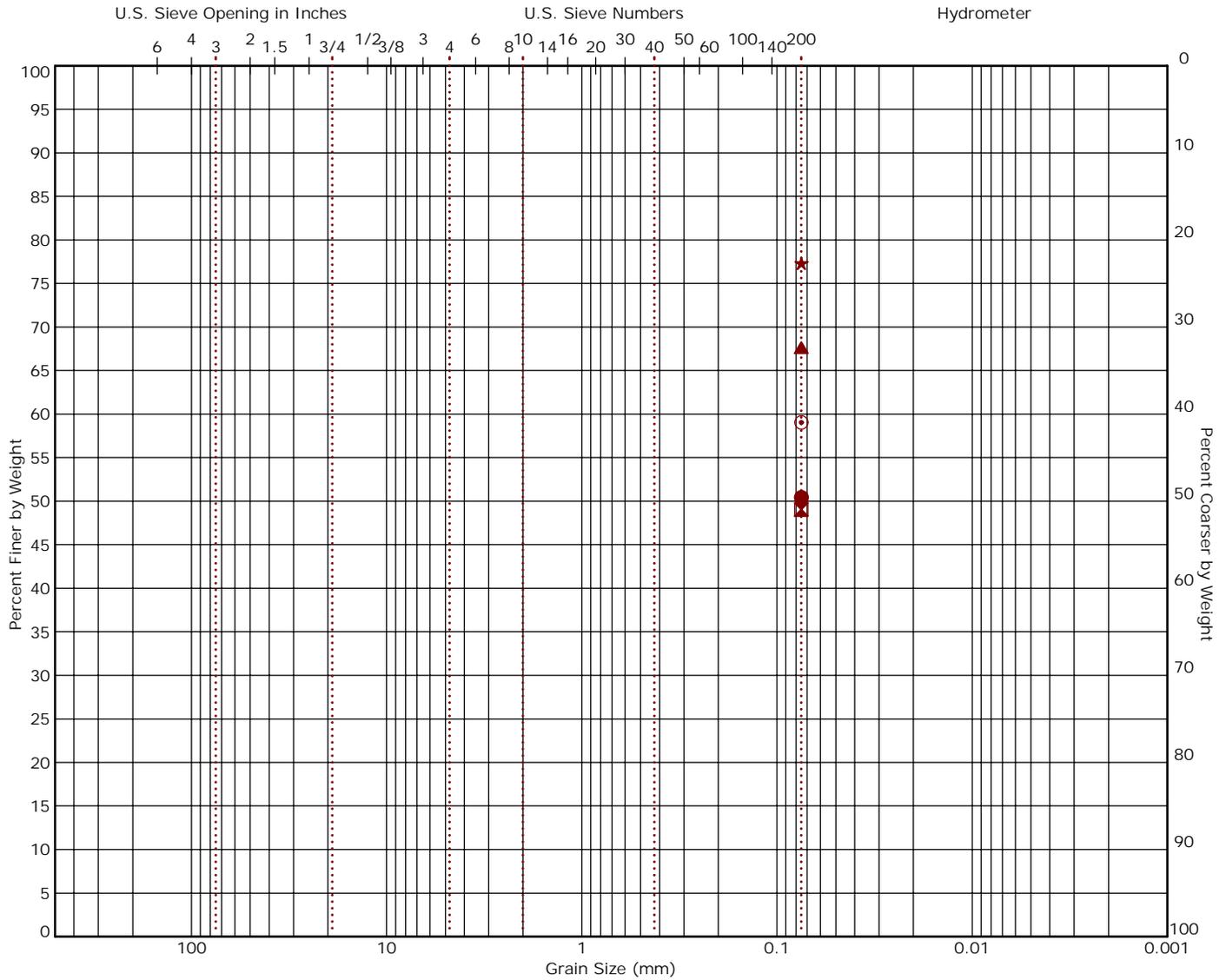
ASTM D4318



	Boring ID	Depth (Ft)	LL	PL	PI	Fines	USCS	Description
●	B-125A	3.5 - 5	36	15	21	76.0	CL	LEAN CLAY with SAND
⊠	B-126	2 - 3.5	29	16	13	71.4	CL	LEAN CLAY with SAND
▲	B-127	2 - 3.5	30	16	14	81.6	CL	LEAN CLAY with SAND
★	B-129	0.5 - 2	29	18	11	72.1	CL	LEAN CLAY with SAND
⊙	B-130	2 - 3.5	30	18	12	88.8	CL	LEAN CLAY
⊕	B-131	0.5 - 2	41	17	24	77.0	CL	LEAN CLAY with SAND
○	B-132	0.5 - 2	30	18	12	60.0	CL	SANDY LEAN CLAY
△	B-133	2 - 3.5	42	18	24	90.0	CL	LEAN CLAY
⊗	B-134	3.5 - 5	42	16	26	82.6	CL	LEAN CLAY with SAND
⊕	B-135	8.5 - 10	40	24	16	98.1	CL	LEAN CLAY
□	B-136	0.5 - 2	31	19	12	91.9	CL	LEAN CLAY
⊕	B-137	0.5 - 2	30	18	12	92.2	CL	LEAN CLAY
⊕	B-140	5 - 6.5	38	13	25	94.0	CL	LEAN CLAY
★	B-142	2 - 3	32	21	11	90.3	CL	LEAN CLAY
⊗	B-145	5 - 6.5	45	17	28	92.6	CL	LEAN CLAY
■	B-146	3.5 - 5	50	17	33	86.8	CH	FAT CLAY
◆	B-148	3.5 - 5	42	15	27	89.6	CL	LEAN CLAY
◇	B-149	2 - 3.5	47	22	25	95.2	CL	LEAN CLAY
⊗	B-150	0.5 - 2	49	15	34	88.5	CL	LEAN CLAY
⊕	B-151	0.5 - 2	NP	NP	NP	49.2	CL	LEAN CLAY with SAND

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

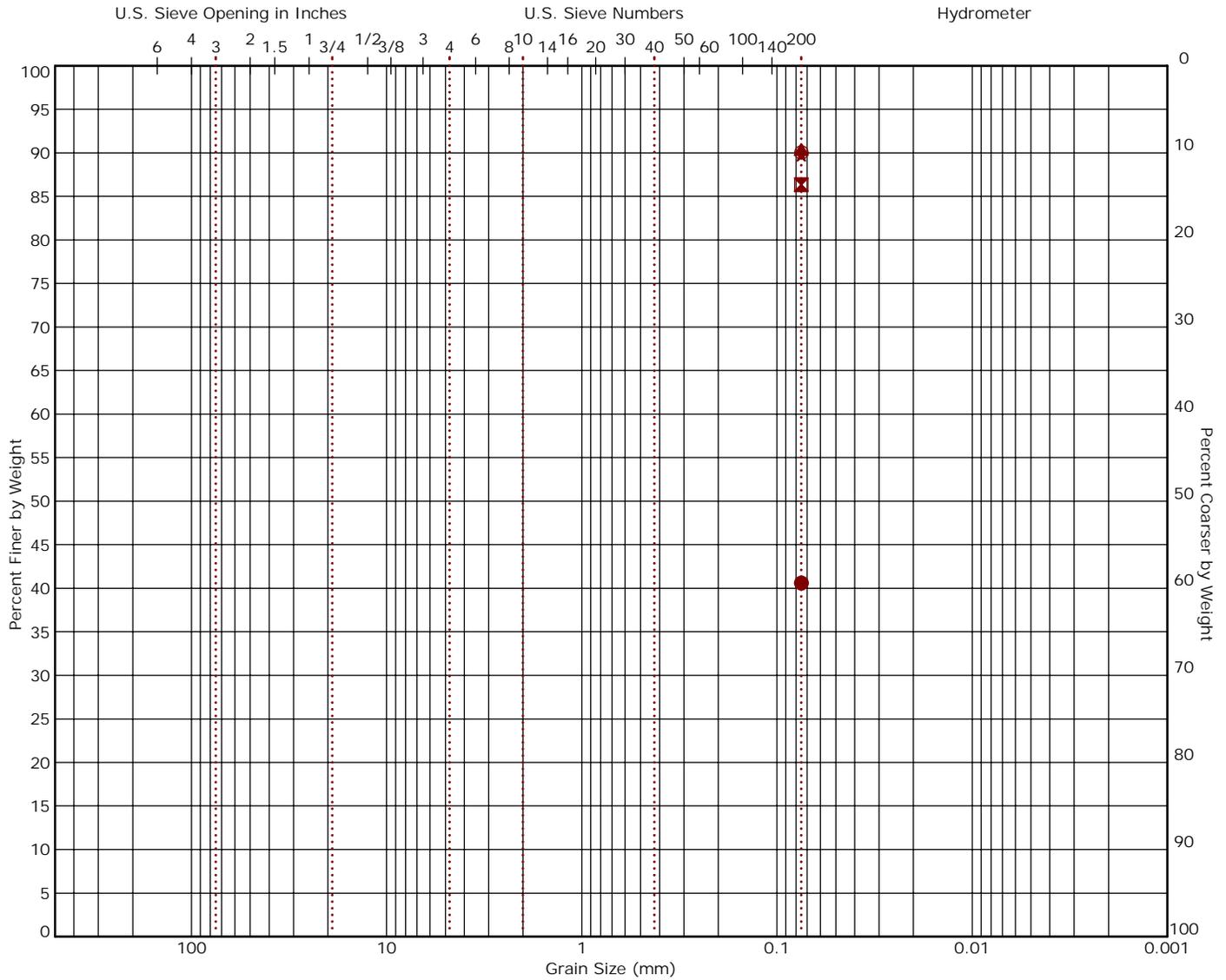


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-192	0.5 - 1.6	SANDY SILT	NP	NP	NP		
☒ B-193	3.5 - 5	SILTY SAND	NP	NP	NP		
▲ B-194	13.5 - 15	SANDY LEAN CLAY	33	18	15		
★ B-195	3.5 - 5	LEAN CLAY with SAND	37	15	22		
⊙ B-196	5 - 6.5	SANDY LEAN CLAY	37	20	17		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-192	0.5 - 1.6	0.075							50.4		
☒ B-193	3.5 - 5	0.075							49.1		
▲ B-194	13.5 - 15	0.075							67.6		
★ B-195	3.5 - 5	0.075							77.3		
⊙ B-196	5 - 6.5	0.075							59.0		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

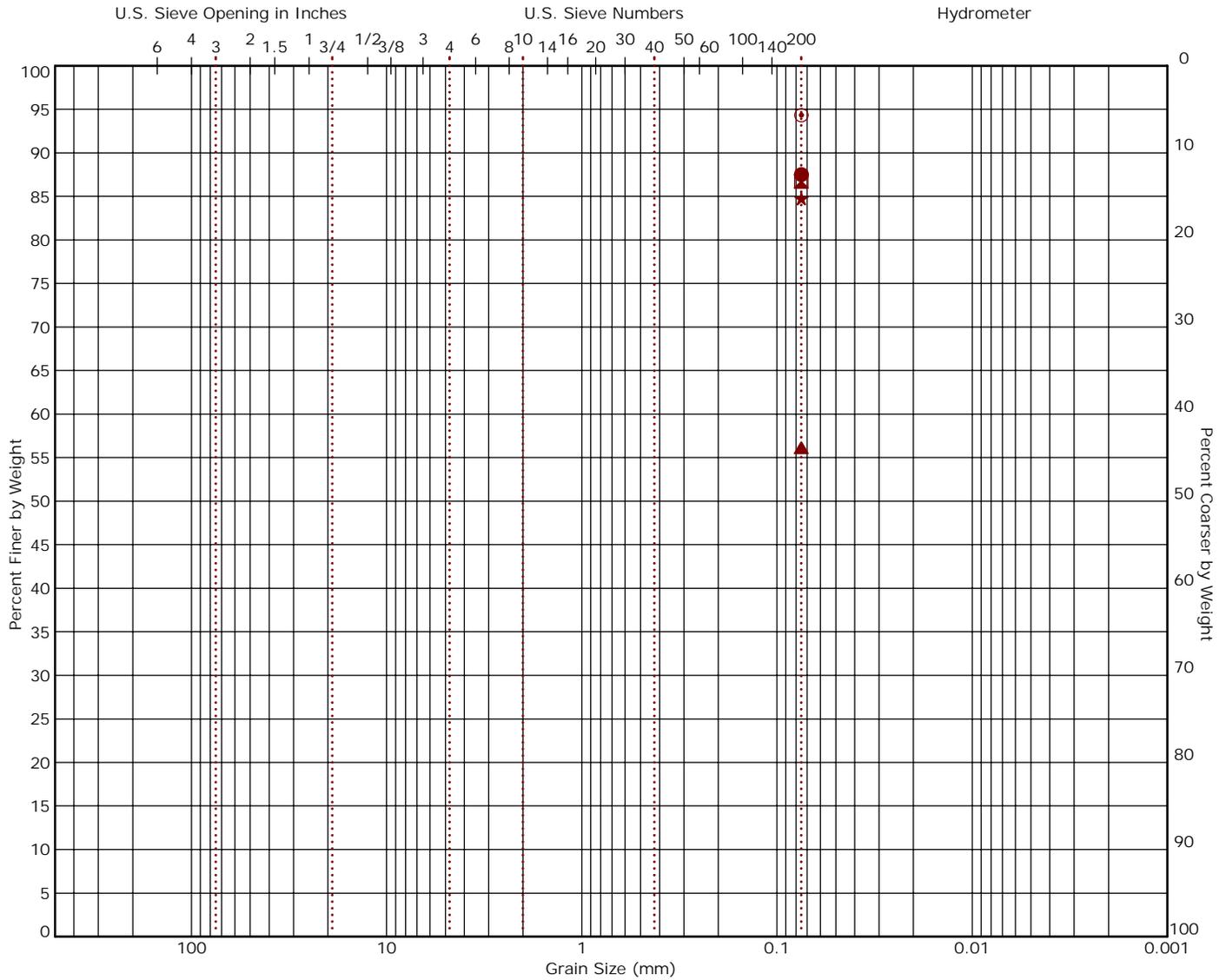


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-197	2 - 3.5	SILTY SAND	NP	NP	NP		
☒ B-199	8.5 - 10	LEAN CLAY	38	15	23		
▲ B-200	0.5 - 2	LEAN CLAY	47	19	28		
★ B-200	8.5 - 10	LEAN CLAY	40	15	25		
⊙ B-201	5 - 6.5	LEAN CLAY	47	16	31		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-197	2 - 3.5	0.075							40.6		
☒ B-199	8.5 - 10	0.075							86.3		
▲ B-200	0.5 - 2	0.075							90.4		
★ B-200	8.5 - 10	0.075							89.8		
⊙ B-201	5 - 6.5	0.075							90.1		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

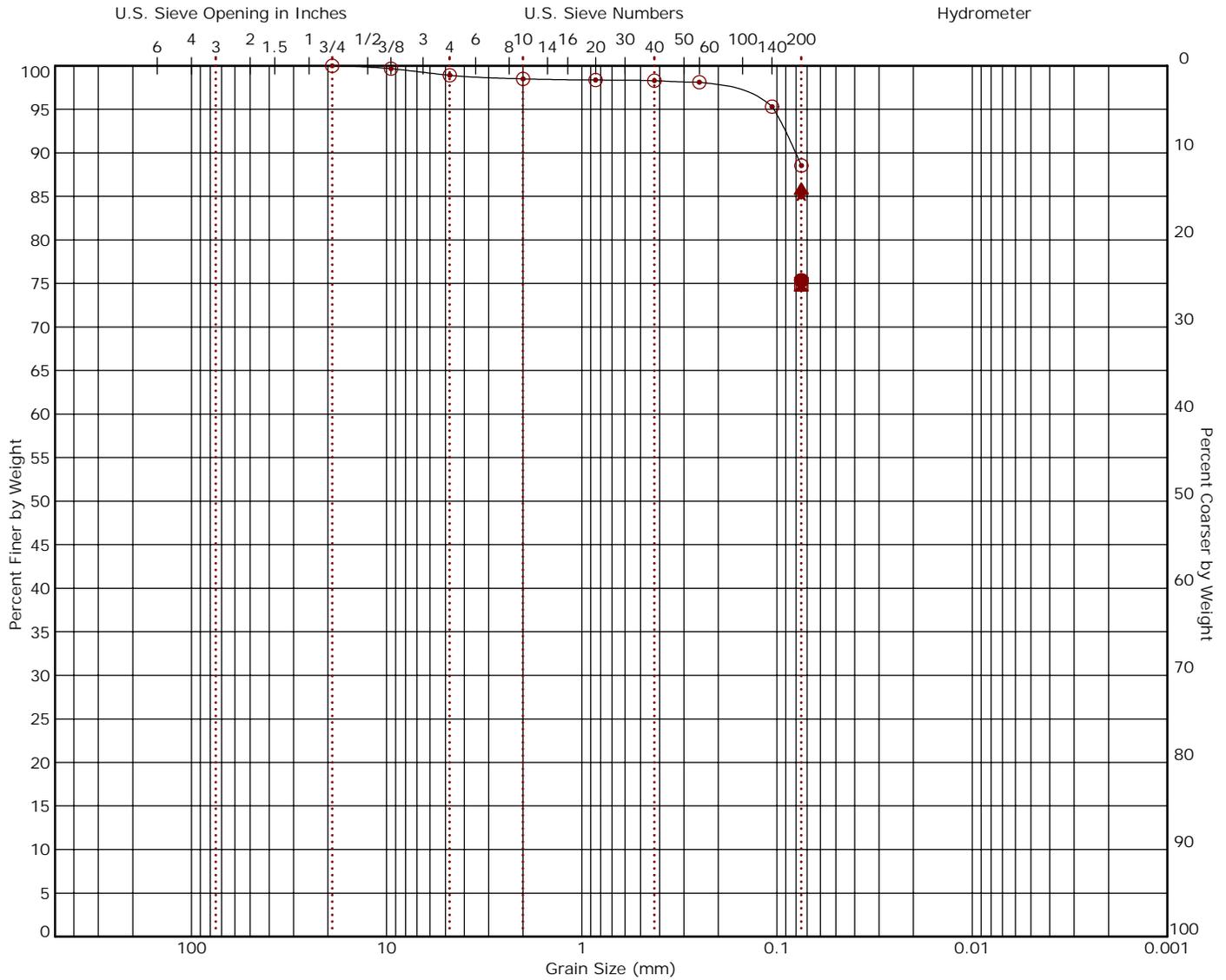


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-202	2 - 3.5	LEAN CLAY	49	18	31		
⊠ B-203	0.5 - 2	LEAN CLAY	43	15	28		
▲ B-204	8.5 - 10	SANDY LEAN CLAY	32	18	14		
★ B-205	5 - 6.5	LEAN CLAY with SAND	41	14	27		
⊙ B-206	13.5 - 15	LEAN CLAY	45	19	26		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-202	2 - 3.5	0.075							87.5		
⊠ B-203	0.5 - 2	0.075							86.7		
▲ B-204	8.5 - 10	0.075							56.1		
★ B-205	5 - 6.5	0.075							84.7		
⊙ B-206	13.5 - 15	0.075							94.3		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

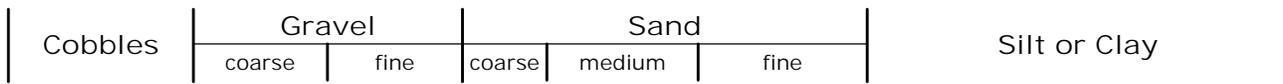
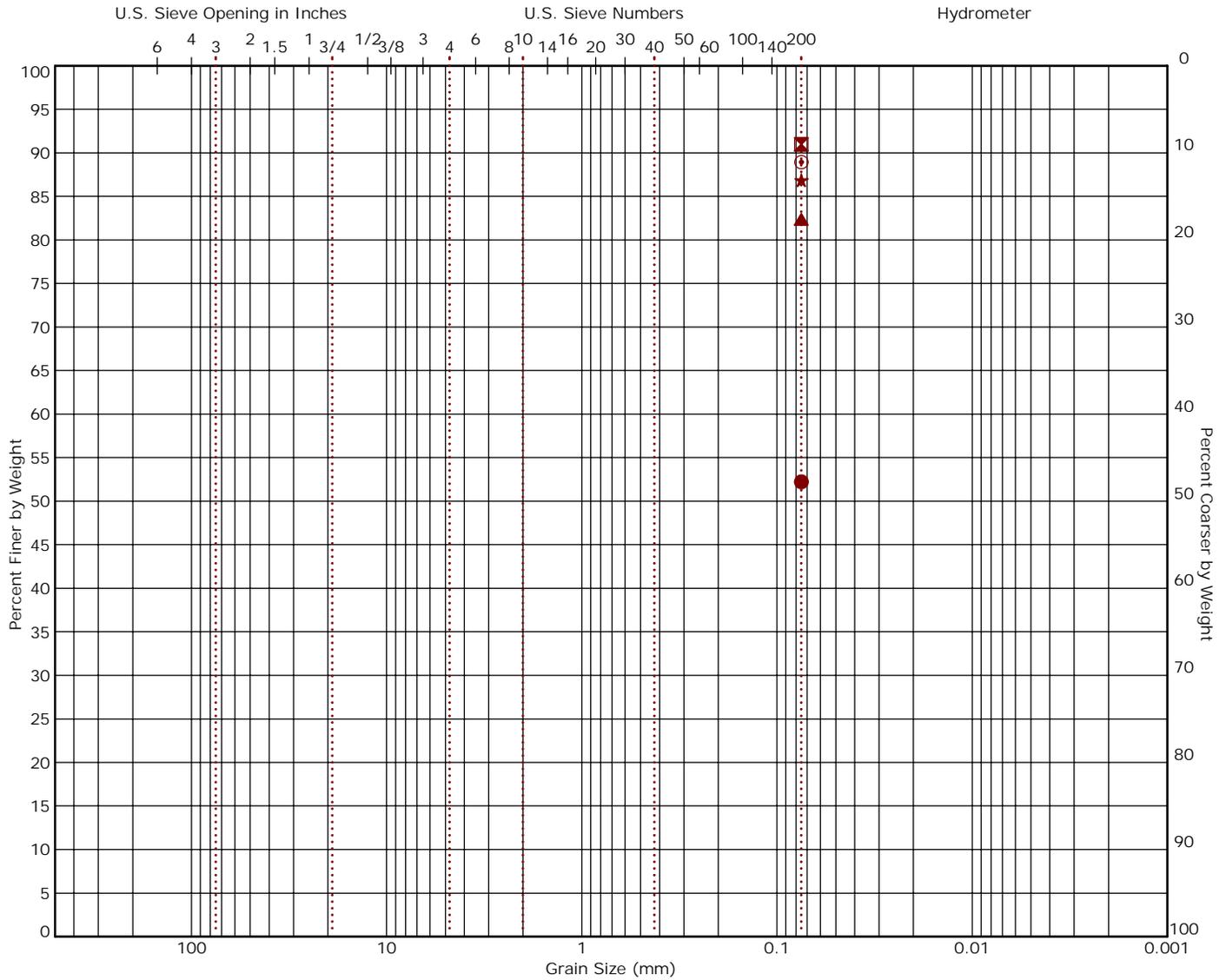


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-207	5 - 6.5	LEAN CLAY with SAND	43	13	30		
⊠ B-208	2 - 3.5	LEAN CLAY with SAND	36	17	19		
▲ B-209	5 - 6.5	LEAN CLAY	44	13	31		
★ B-210	2 - 3.5	LEAN CLAY	46	14	32		
⊙ B-211	2 - 3.5	LEAN CLAY	44	17	27		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-207	5 - 6.5	0.075							75.4		
⊠ B-208	2 - 3.5	0.075							74.9		
▲ B-209	5 - 6.5	0.075							85.9		
★ B-210	2 - 3.5	0.075							85.2		
⊙ B-211	2 - 3.5	19				0.0	1.1	10.4	88.5		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

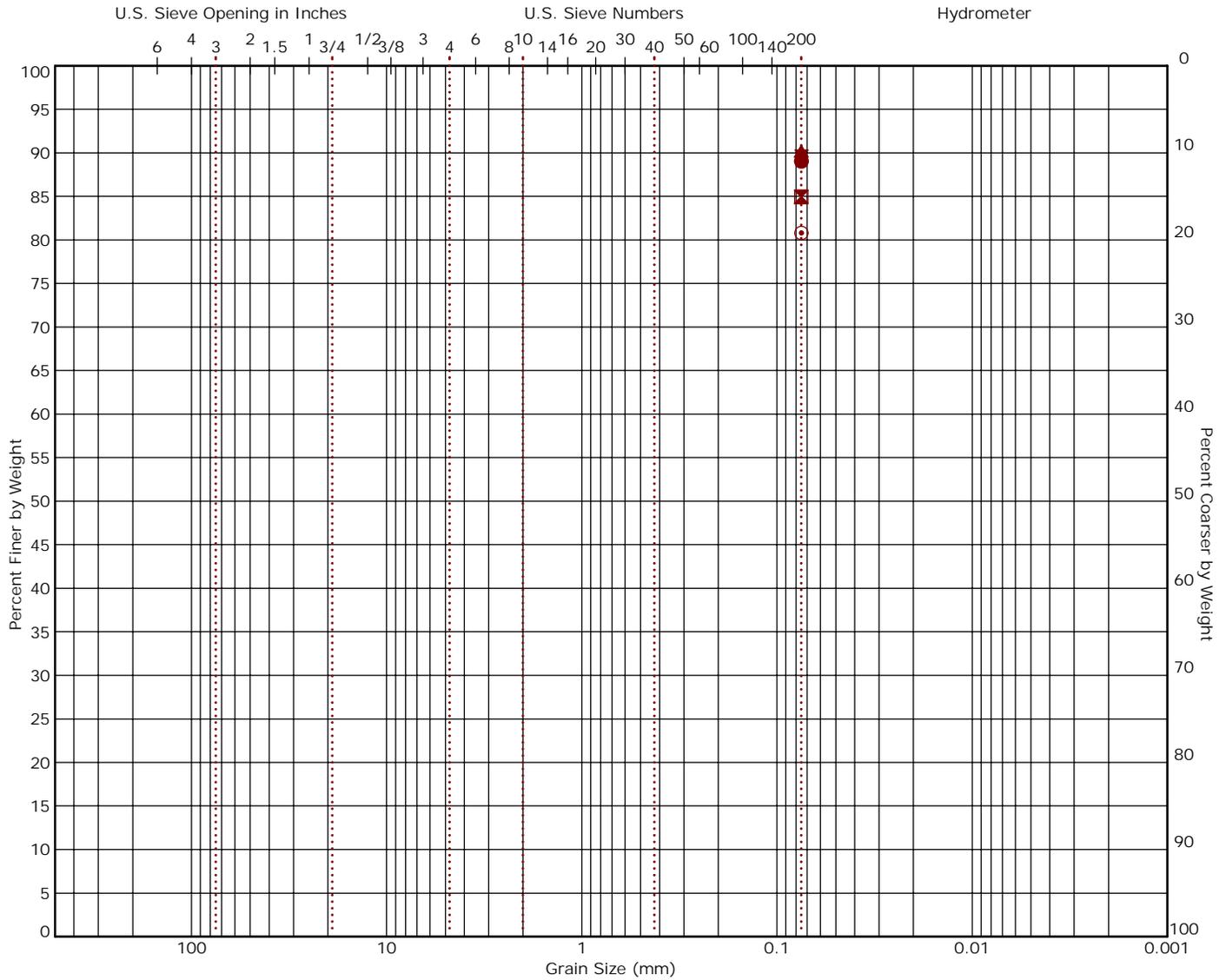


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-211	8.5 - 10	SANDY LEAN CLAY	34	14	20		
■ B-212	3.5 - 5	LEAN CLAY	41	13	28		
▲ B-213	3.5 - 5	LEAN CLAY with SAND	49	15	34		
★ B-214	5 - 6.5	LEAN CLAY	39	14	25		
⊙ B-215	3.5 - 5	LEAN CLAY	39	15	24		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-211	8.5 - 10	0.075							52.2		
■ B-212	3.5 - 5	0.075							91.0		
▲ B-213	3.5 - 5	0.075							82.4		
★ B-214	5 - 6.5	0.075							86.9		
⊙ B-215	3.5 - 5	0.075							88.9		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Cobbles
Gravel
Sand
Silt or Clay

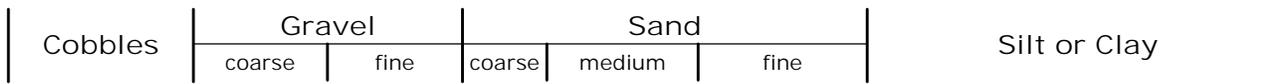
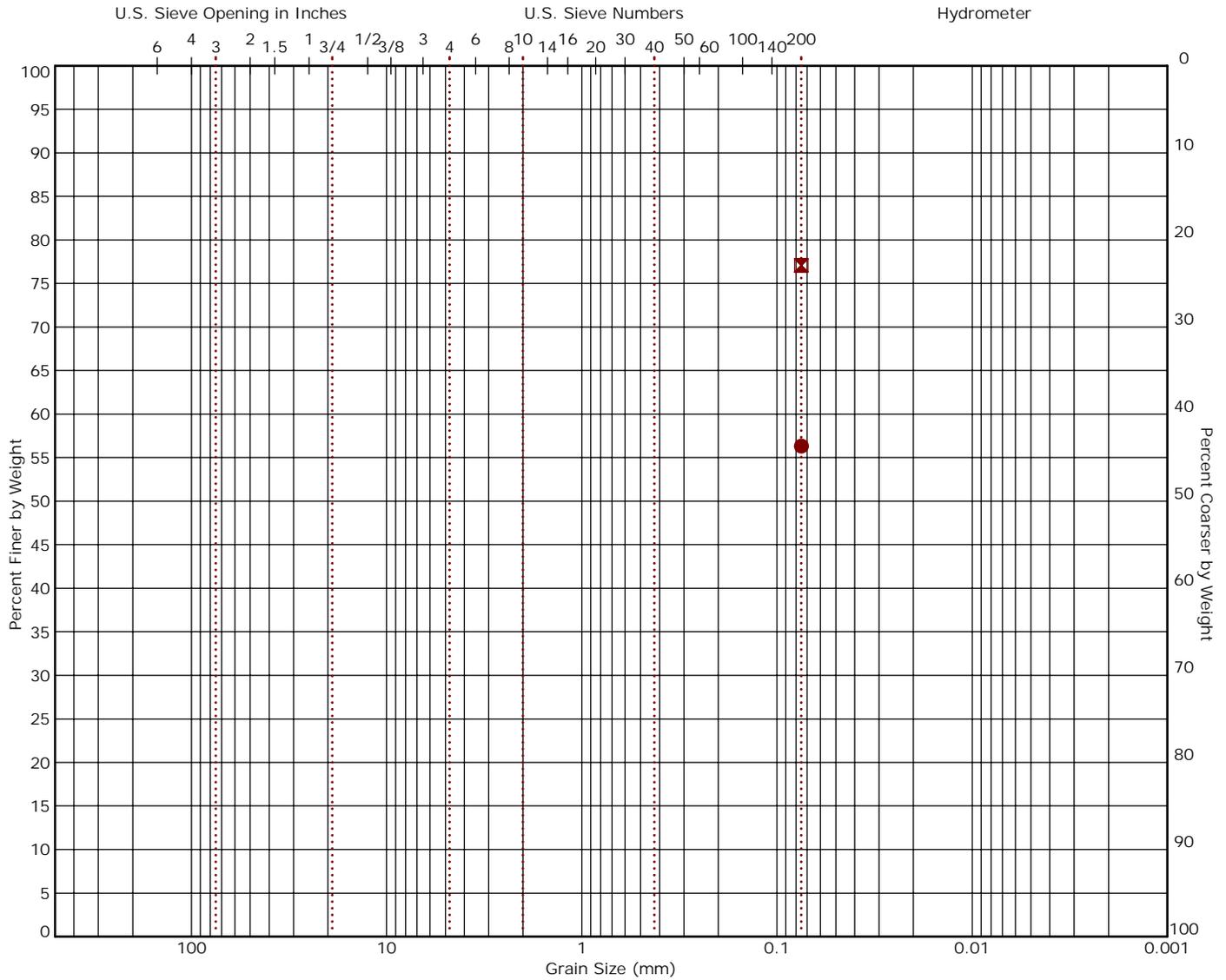
coarse
fine
coarse
medium
fine

Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-221	5 - 6.5	FAT CLAY	57	20	37		
⊠ B-222	3.5 - 5	LEAN CLAY with SAND	45	13	32		
▲ B-223	2 - 3.5	LEAN CLAY	40	20	20		
★ B-224	0.5 - 2	FAT CLAY	66	17	49		
⊙ B-226	5 - 6.5	LEAN CLAY with SAND	46	14	32		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-221	5 - 6.5	0.075							89.0		
⊠ B-222	3.5 - 5	0.075							85.0		
▲ B-223	2 - 3.5	0.075							90.2		
★ B-224	0.5 - 2	0.075							90.2		
⊙ B-226	5 - 6.5	0.075							80.8		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

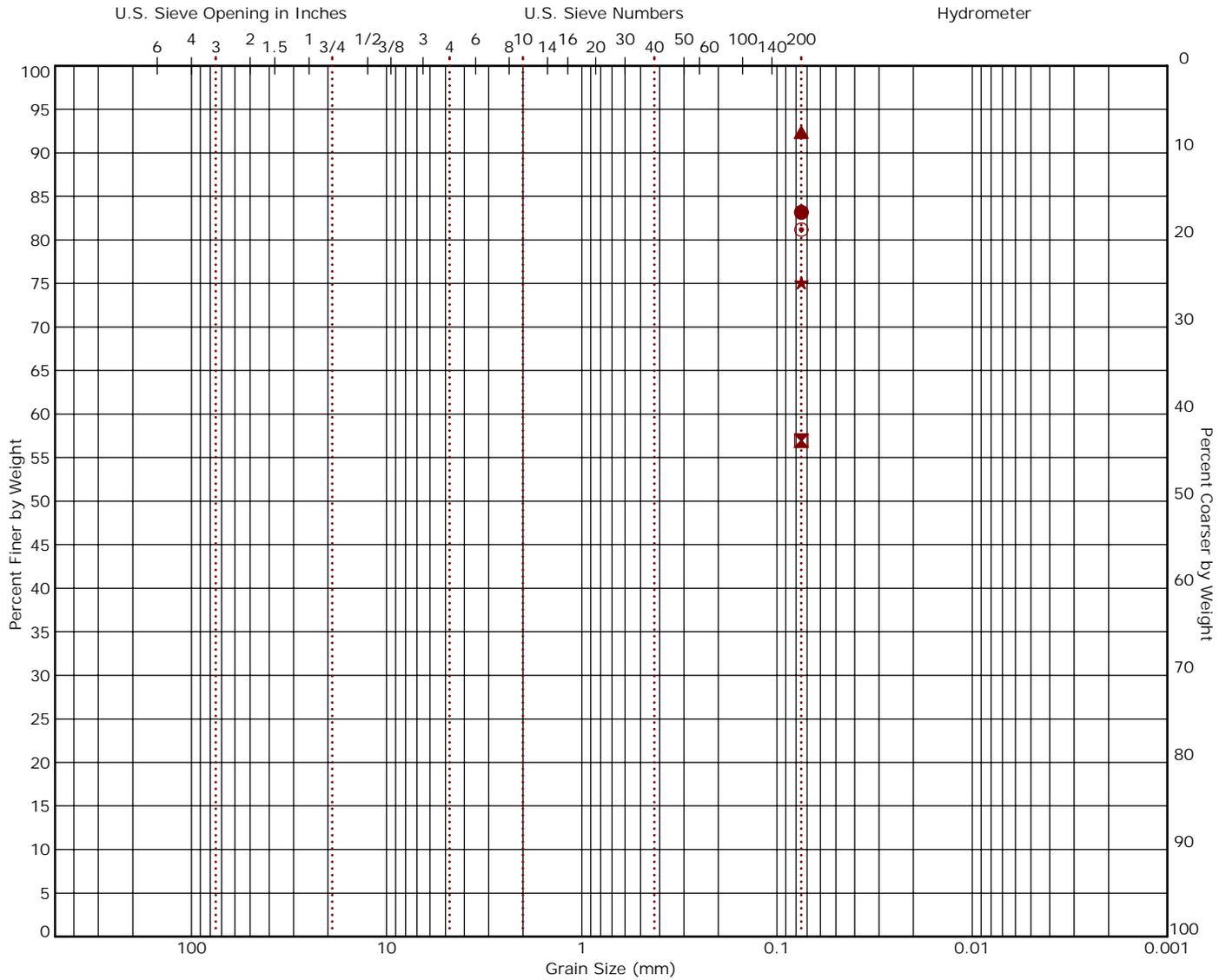


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-227	8.5 - 10	SANDY LEAN CLAY	33	17	16		
■ B-228	2 - 3.5	LEAN CLAY with SAND	38	18	20		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-227	8.5 - 10	0.075							56.3		
■ B-228	2 - 3.5	0.075							77.1		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

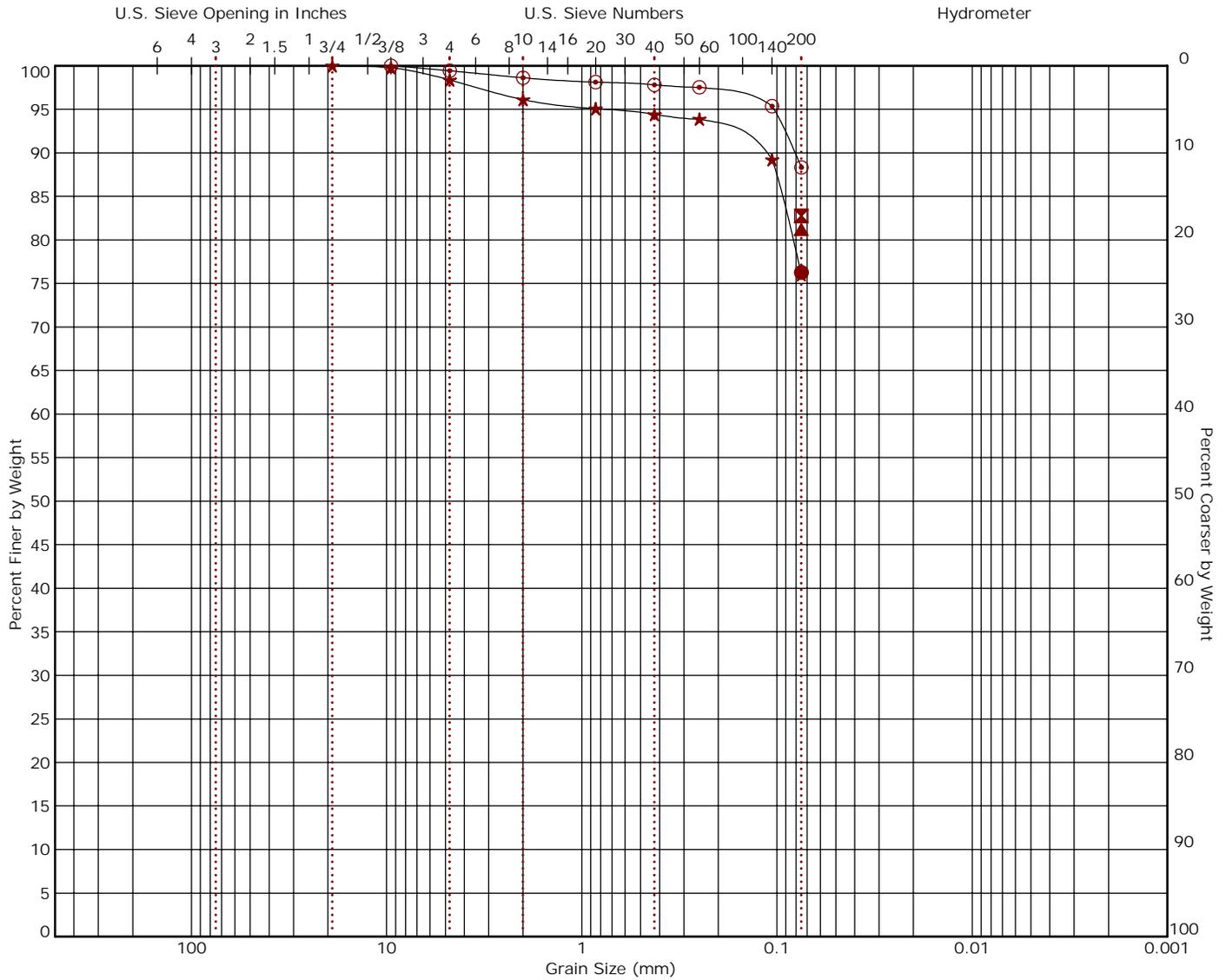


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-156	2 - 3.5	LEAN CLAY with SAND	30	19	11		
⊠ B-157	0.5 - 2	SANDY SILT	NP	NP	NP		
▲ B-158	3.5 - 5	LEAN CLAY	27	17	10		
★ B-159	3.5 - 5	LEAN CLAY with SAND	39	17	22		
⊙ B-160	0.5 - 2	LEAN CLAY with SAND	40	14	26		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-156	2 - 3.5	0.075							83.2		
⊠ B-157	0.5 - 2	0.075							57.0		
▲ B-158	3.5 - 5	0.075							92.4		
★ B-159	3.5 - 5	0.075							75.1		
⊙ B-160	0.5 - 2	0.075							81.2		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Cobbles |
 Gravel |
 Sand |
 Silt or Clay

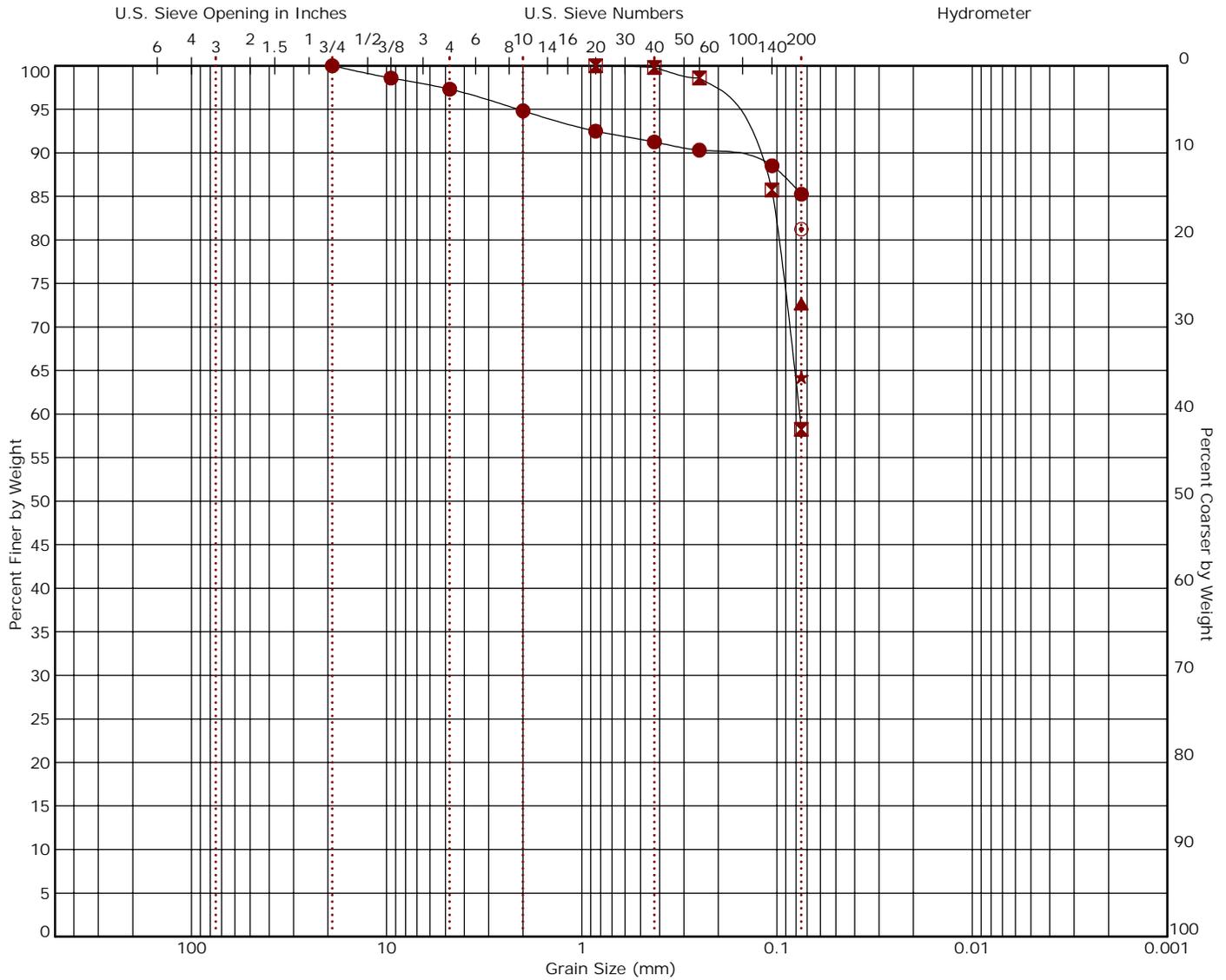
coarse | fine | coarse | medium | fine

Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-161	8.5 - 10	LEAN CLAY with SAND	31	16	15		
■ B-162	5 - 6.5	LEAN CLAY with SAND	38	17	21		
▲ B-163	0.5 - 2	LEAN CLAY with SAND	36	14	22		
★ B-164	2 - 3.5	LEAN CLAY with SAND	30	15	15		
○ B-164	6.5 - 8.5	LEAN CLAY	30	17	13		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-161	8.5 - 10	0.075							76.3		
■ B-162	5 - 6.5	0.075							82.8		
▲ B-163	0.5 - 2	0.075							81.2		
★ B-164	2 - 3.5	19				0.0	1.6	22.4	76.0		
○ B-164	6.5 - 8.5	9.5				0.0	0.6	11.1	88.3		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



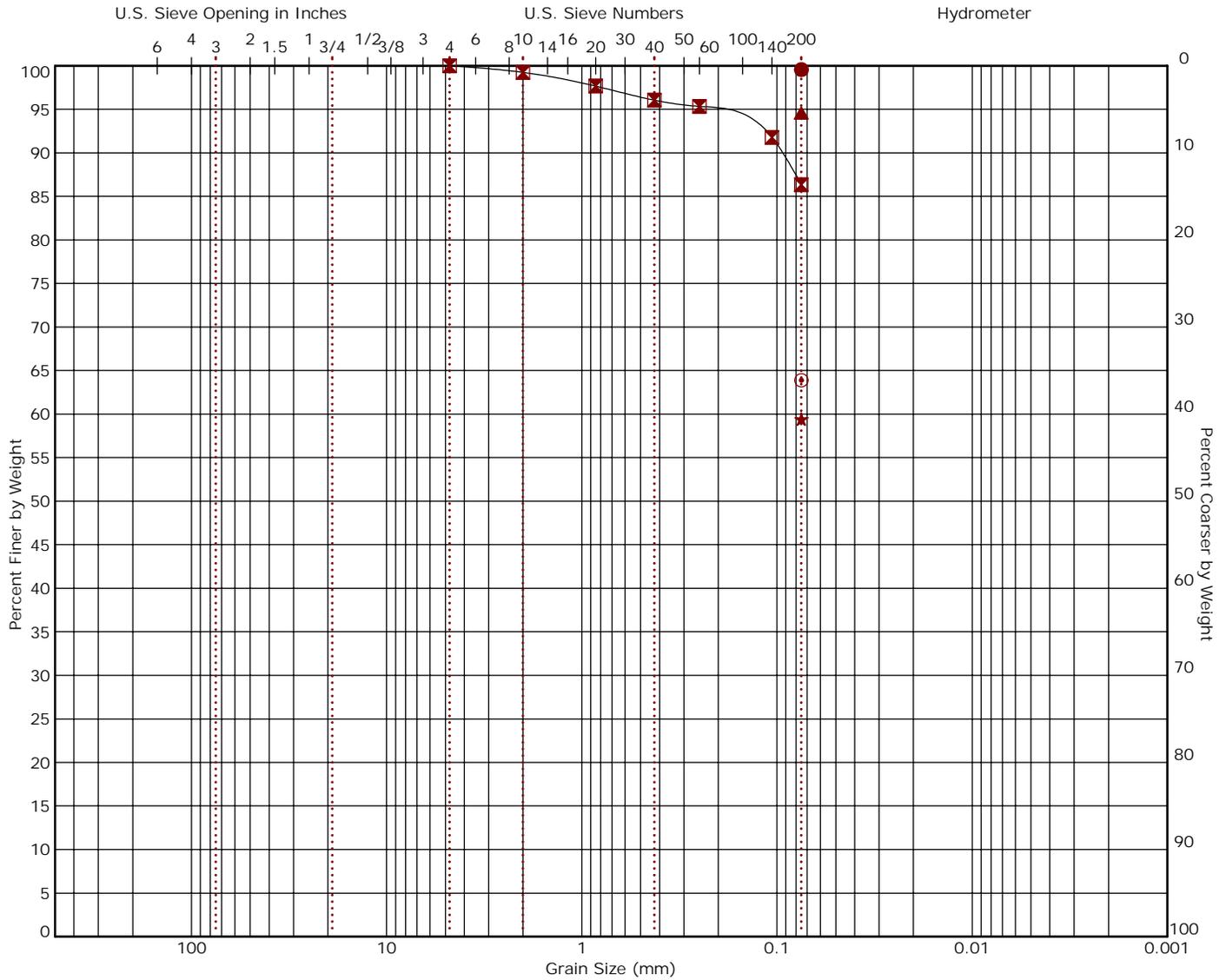
Cobbles |
 Gravel
coarse | fine |
 Sand
coarse | medium | fine |
 Silt or Clay

Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-165	2 - 3.5	LEAN CLAY	30	20	10		
⊠ B-166	0.5 - 2	SANDY SILT	NP	NP	NP		
▲ B-167	2 - 3.5	LEAN CLAY with SAND	26	16	10		
★ B-168	5 - 6.5	SANDY LEAN CLAY	28	17	11		
⊙ B-169	5 - 6.5	LEAN CLAY with SAND	37	15	22		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-165	2 - 3.5	19				0.0	2.7	12.1	85.3		
⊠ B-166	0.5 - 2	0.85	0.077			0.0	0.0	41.7	58.3		
▲ B-167	2 - 3.5	0.075							72.7		
★ B-168	5 - 6.5	0.075							64.2		
⊙ B-169	5 - 6.5	0.075							81.2		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Cobbles
Gravel
Sand
Silt or Clay

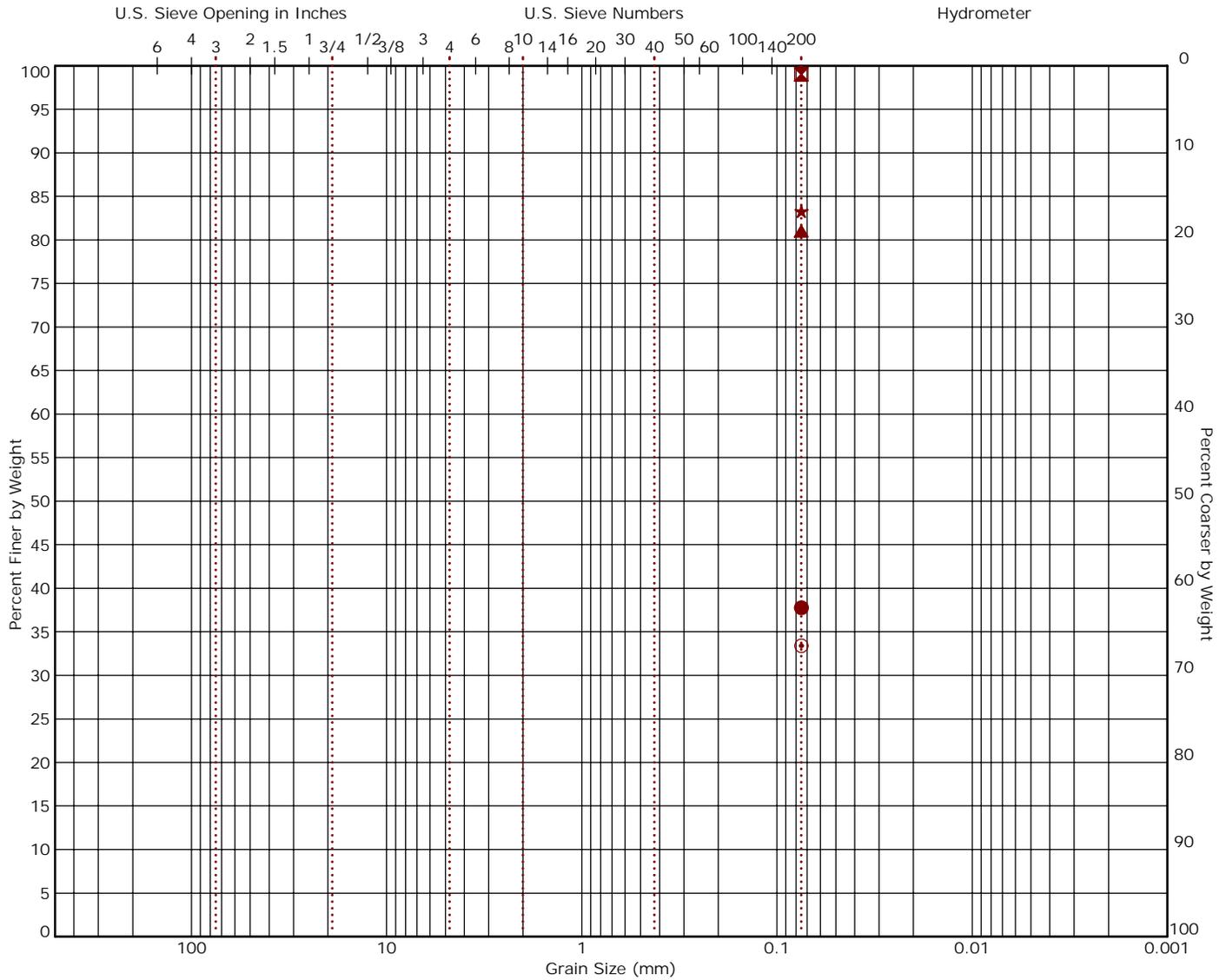
coarse
fine
coarse
medium
fine

Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-170	3.5 - 5	LEAN CLAY	41	25	16		
☒ B-171	2 - 3.5	LEAN CLAY	43	16	27		
▲ B-171	5 - 6.5	LEAN CLAY	36	17	19		
★ B-172	2 - 3.5	SANDY LEAN CLAY	41	15	26		
⊙ B-173	3.5 - 5	SANDY LEAN CLAY	30	14	16		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-170	3.5 - 5	0.075							99.6		
☒ B-171	2 - 3.5	4.75				0.0	0.0	13.7	86.3		
▲ B-171	5 - 6.5	0.075							94.6		
★ B-172	2 - 3.5	0.075							59.4		
⊙ B-173	3.5 - 5	0.075							63.9		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

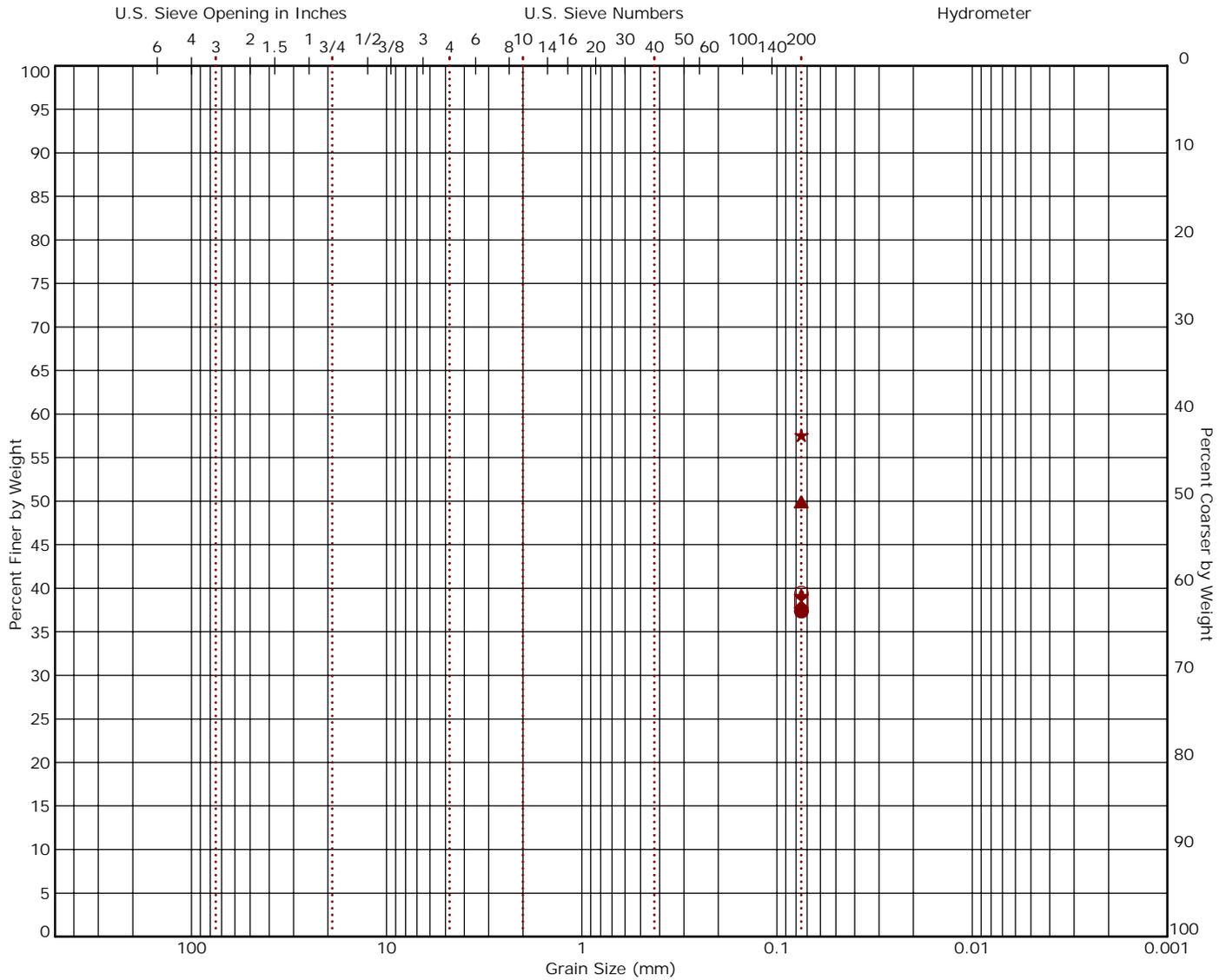


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-176	0.5 - 2	SILTY SAND	NP	NP	NP		
⊠ B-178	8.5 - 10	LEAN CLAY	43	22	21		
▲ B-179	3.5 - 5						
★ B-180	2 - 3.5	LEAN CLAY with SAND	44	18	26		
⊙ B-181	0.5 - 2	SILTY SAND	NP	NP	NP		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-176	0.5 - 2	0.075							37.8		
⊠ B-178	8.5 - 10	0.075							99.0		
▲ B-179	3.5 - 5	0.075							81.0		
★ B-180	2 - 3.5	0.075							83.3		
⊙ B-181	0.5 - 2	0.075							33.4		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

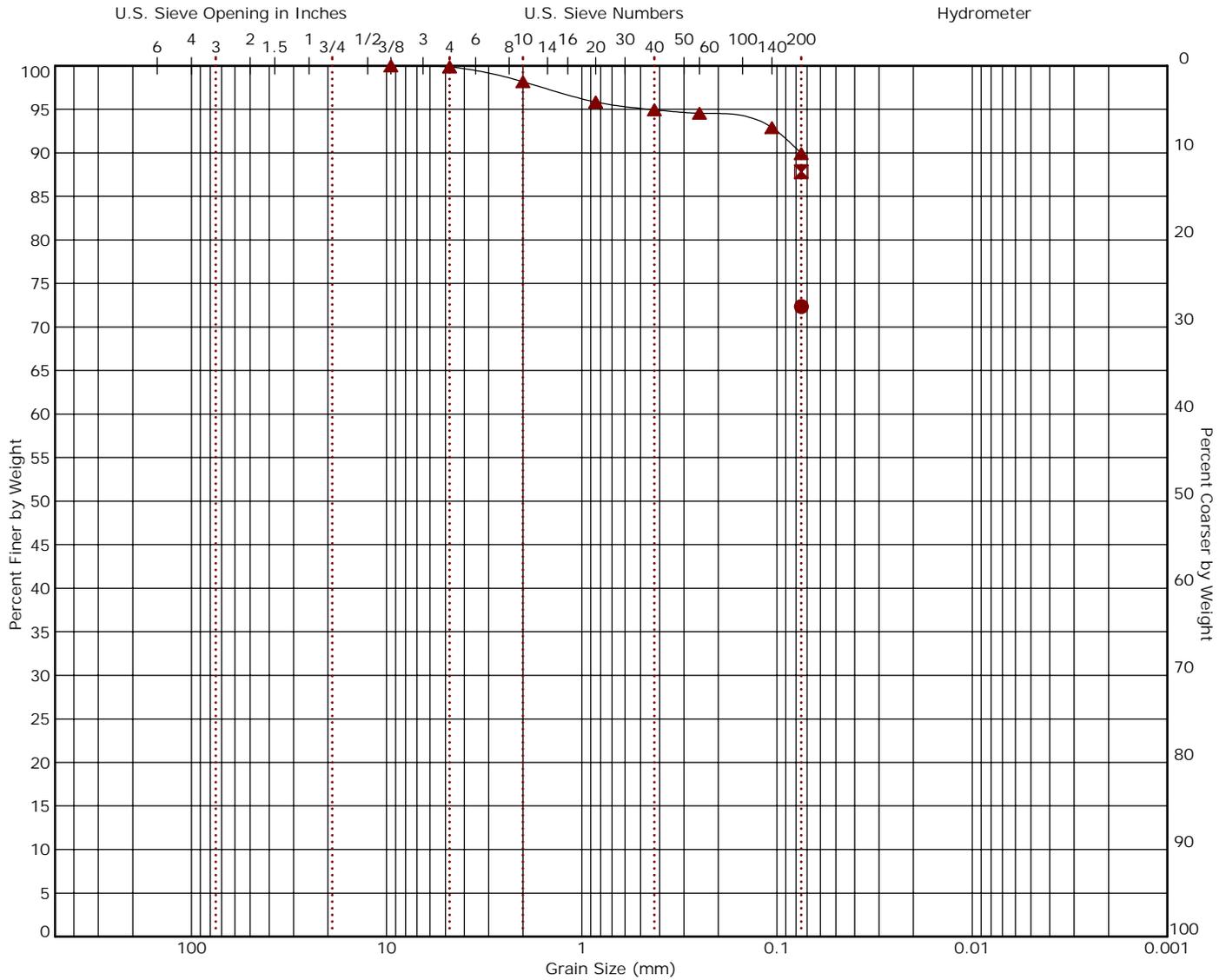


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-183	0.5 - 2	SILTY SAND	NP	NP	NP		
⊠ B-185	2 - 3.5	SILTY SAND	NP	NP	NP		
▲ B-188	0.5 - 1.3	CLAYEY SAND	26	16	10		
★ B-189	2 - 3.5	SANDY SILT	NP	NP	NP		
⊙ B-190	0.5 - 2	SILTY SAND	NP	NP	NP		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-183	0.5 - 2	0.075							37.4		
⊠ B-185	2 - 3.5	0.075							38.5		
▲ B-188	0.5 - 1.3	0.075							49.9		
★ B-189	2 - 3.5	0.075							57.6		
⊙ B-190	0.5 - 2	0.075							39.5		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-191	3.5 - 5	SILT with SAND	NP	NP	NP		
☒ B-225	2 - 3.5	LEAN CLAY	47	19	28		
▲ B-225	6.5	FAT CLAY	59	15	44		

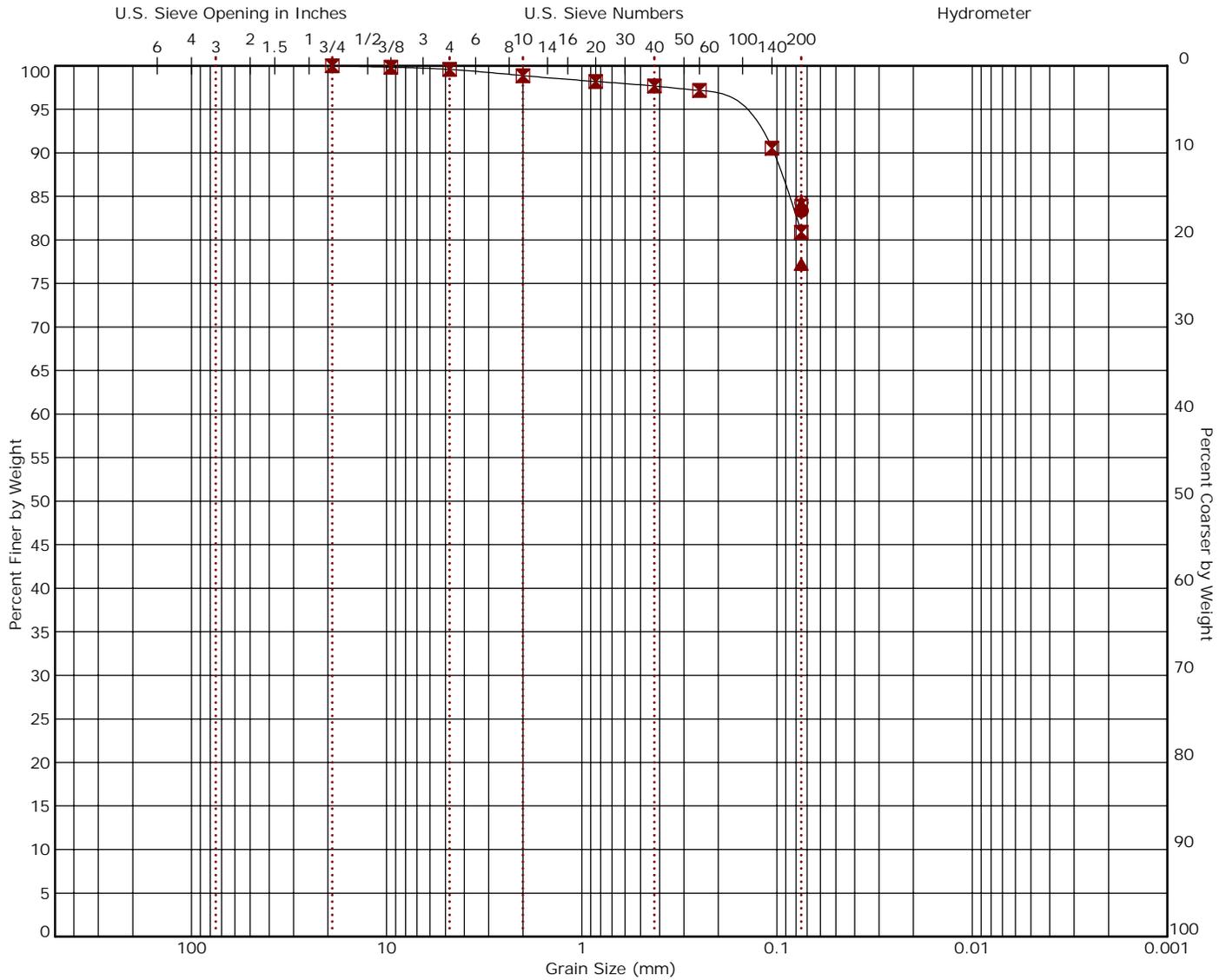
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Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-191	3.5 - 5	0.075							72.4		
☒ B-225	2 - 3.5	0.075							87.8		
▲ B-225	6.5	9.5				0.0	0.1	10.0	89.9		

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Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Cobbles |
 Gravel |
 Sand |
 Silt or Clay

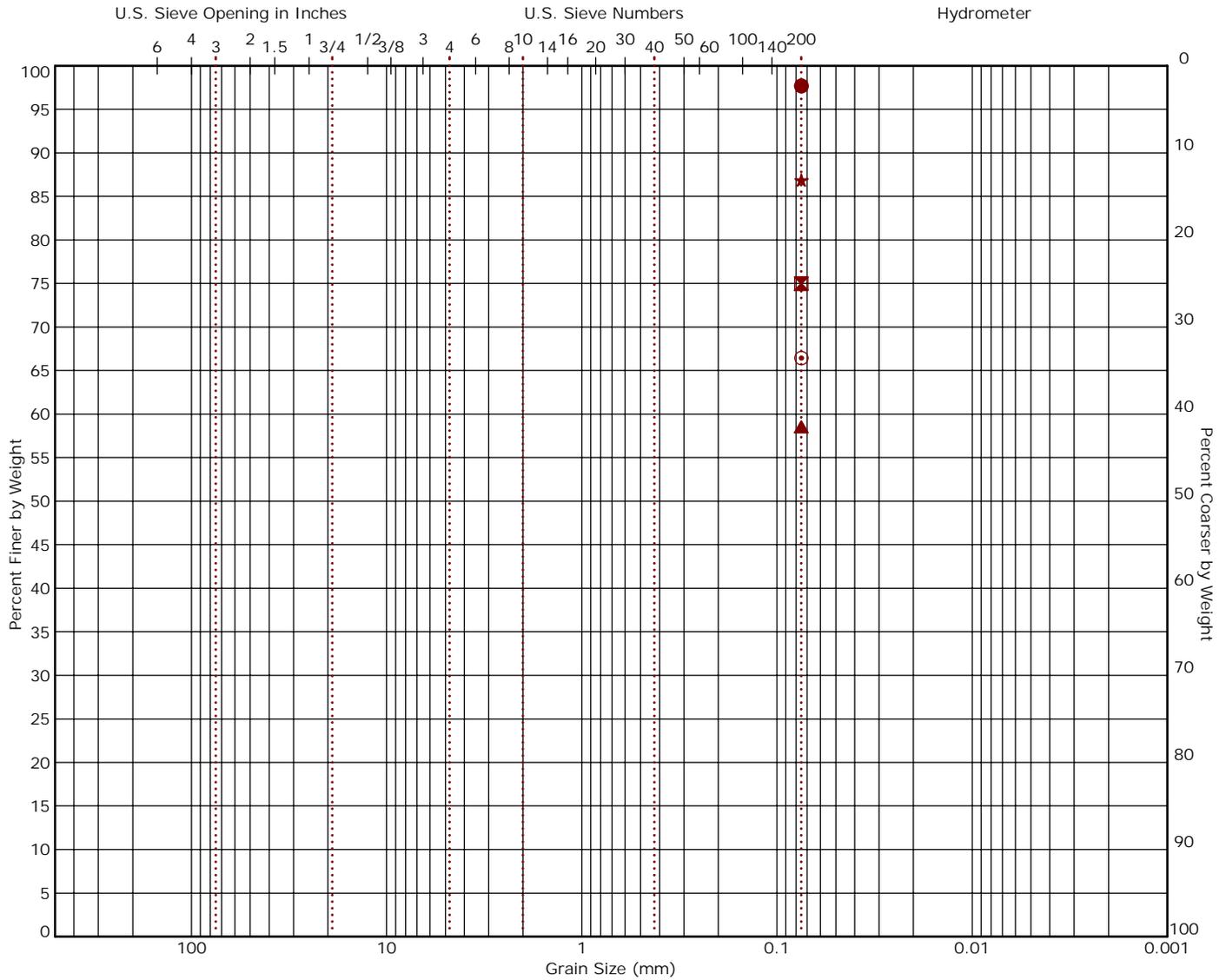
coarse |
 fine |
 coarse |
 medium |
 fine

Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-101	2 - 3.5	FAT CLAY with SAND	56	15	41		
☒ B-101	5 - 5.6	LEAN CLAY with SAND	35	15	20		
▲ B-103	0.5 - 2	LEAN CLAY with SAND	33	19	14		
★ B-105	0.5 - 2	LEAN CLAY with SAND	31	21	10		
⊙ B-106	5 - 6.5	LEAN CLAY with SAND	30	19	11		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-101	2 - 3.5	0.075							83.4		
☒ B-101	5 - 5.6	19				0.0	0.4	18.7	80.9		
▲ B-103	0.5 - 2	0.075							77.2		
★ B-105	0.5 - 2	0.075							84.5		
⊙ B-106	5 - 6.5	0.075							84.3		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

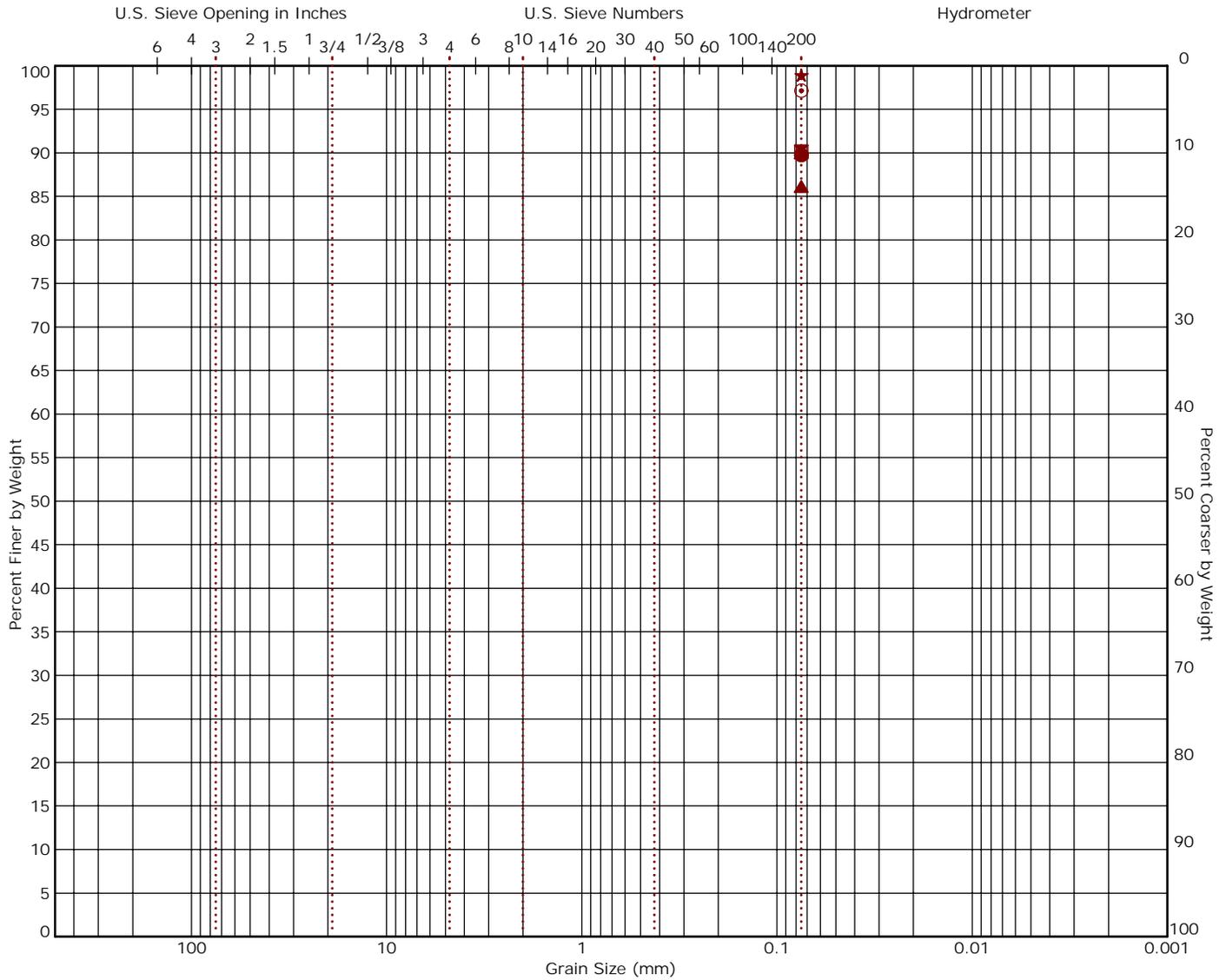


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-107	2 - 3.5	LEAN CLAY	32	16	16		
⊠ B-108A	3.5 - 5	LEAN CLAY with SAND	31	20	11		
▲ B-109	2 - 3.5	SANDY SILTY CLAY	26	19	7		
★ B-111A	3.5 - 5	LEAN CLAY	32	16	16		
⊙ B-112	0.5 - 2	SANDY LEAN CLAY	39	17	22		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-107	2 - 3.5	0.075							97.7		
⊠ B-108A	3.5 - 5	0.075							75.0		
▲ B-109	2 - 3.5	0.075							58.5		
★ B-111A	3.5 - 5	0.075							86.9		
⊙ B-112	0.5 - 2	0.075							66.4		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

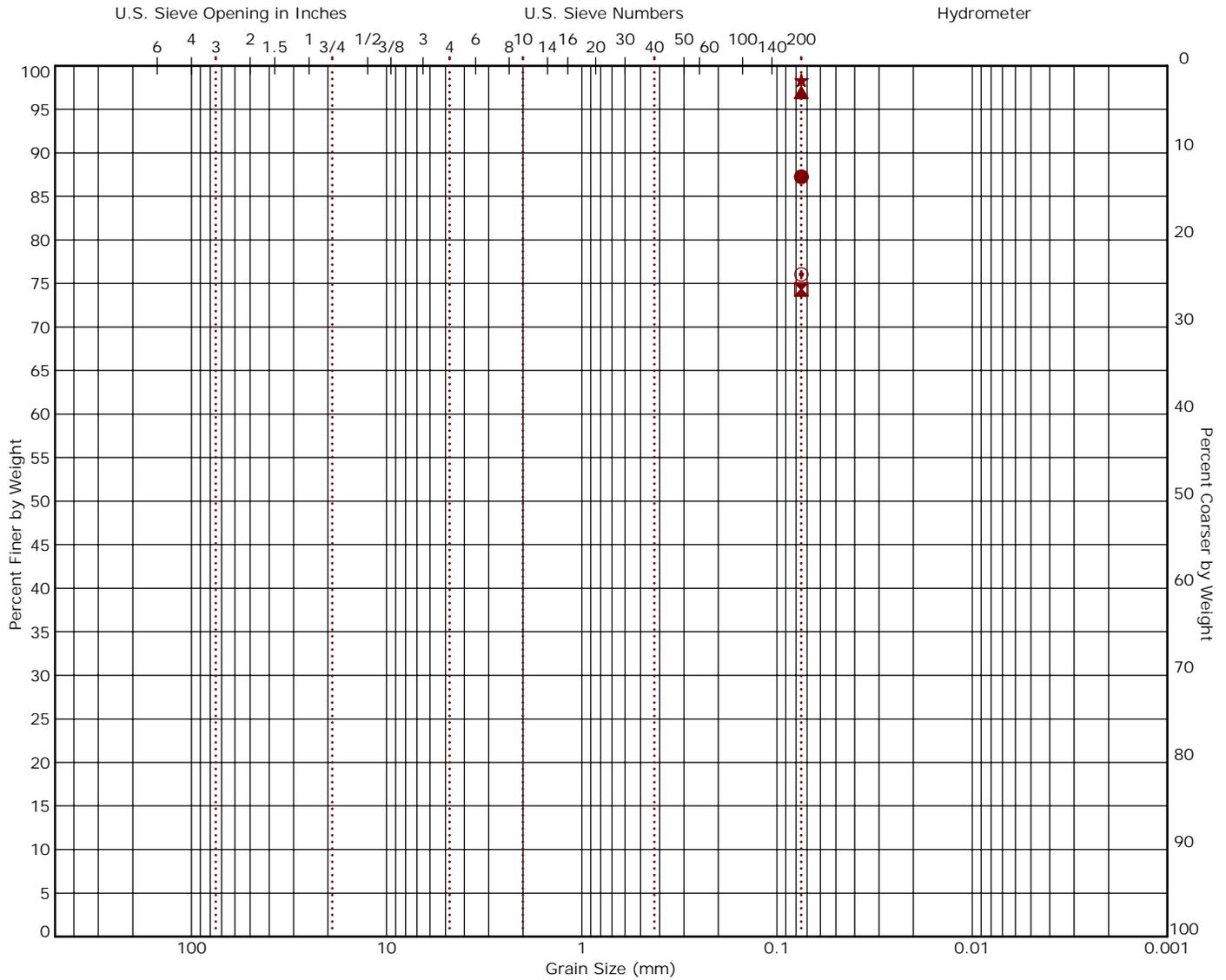


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-113A	3.5 - 5	LEAN CLAY	31	18	13		
⊠ B-115A	5 - 6.5	LEAN CLAY	32	16	16		
▲ B-116A	2 - 3.5						
★ B-117	5 - 6.5	LEAN CLAY	36	18	18		
⊙ B-118	0.5 - 2	LEAN CLAY	32	20	12		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-113A	3.5 - 5	0.075							89.8		
⊠ B-115A	5 - 6.5	0.075							90.1		
▲ B-116A	2 - 3.5	0.075							86.1		
★ B-117	5 - 6.5	0.075							98.9		
⊙ B-118	0.5 - 2	0.075							97.1		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

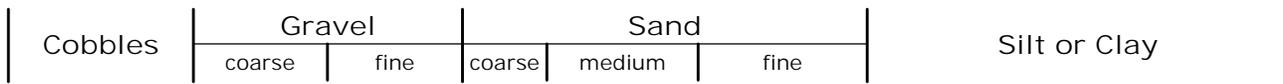
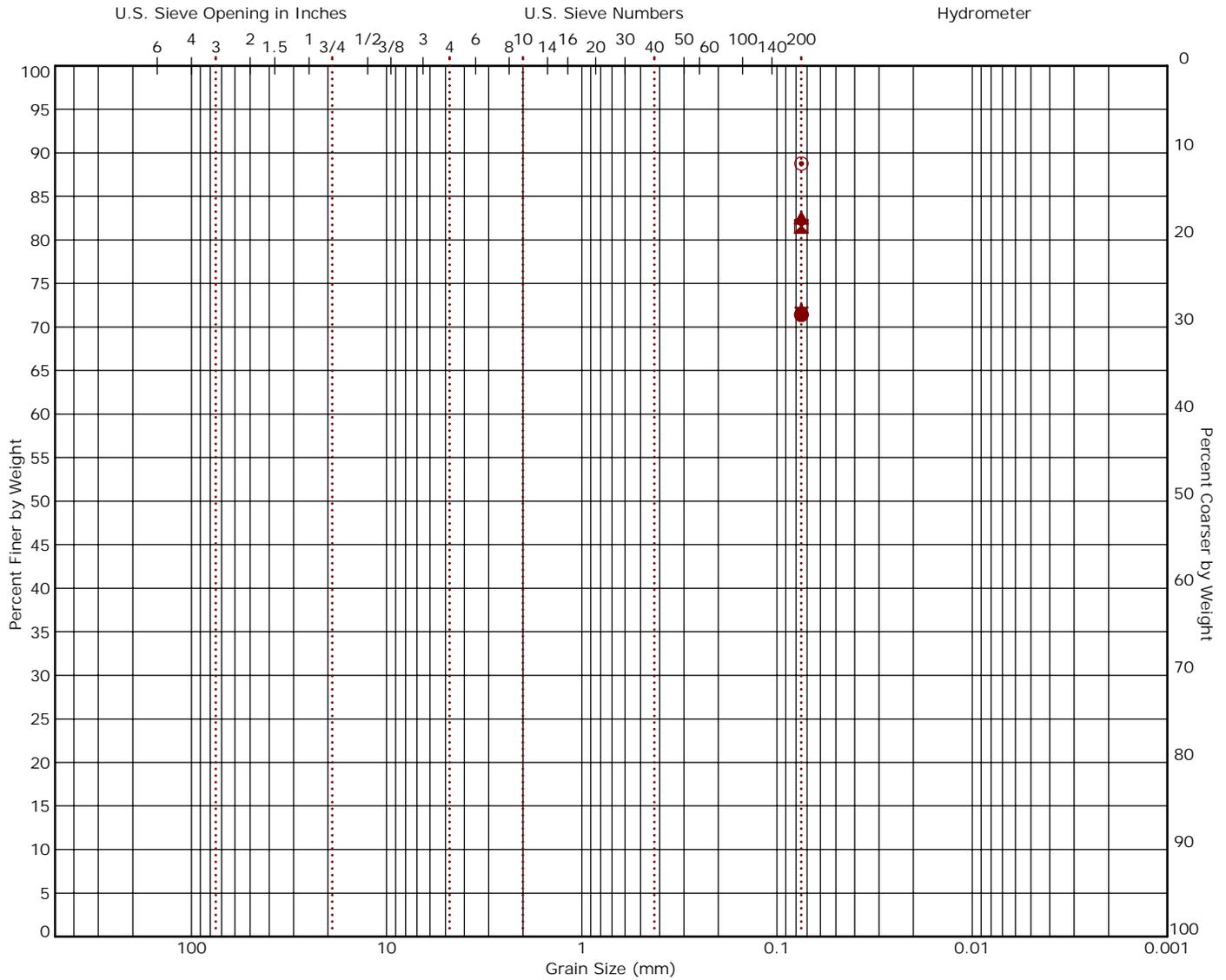


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-119	2 - 3.5	LEAN CLAY	32	16	16		
⊠ B-121A	5 - 6.5	LEAN CLAY with SAND	35	14	21		
▲ B-123	2 - 3.5	LEAN CLAY	37	24	13		
★ B-124A	0.5 - 2	LEAN CLAY	26	18	8		
⊙ B-125A	3.5 - 5	LEAN CLAY with SAND	36	15	21		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-119	2 - 3.5	0.075							87.3		
⊠ B-121A	5 - 6.5	0.075							74.3		
▲ B-123	2 - 3.5	0.075							96.9		
★ B-124A	0.5 - 2	0.075							98.3		
⊙ B-125A	3.5 - 5	0.075							76.0		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

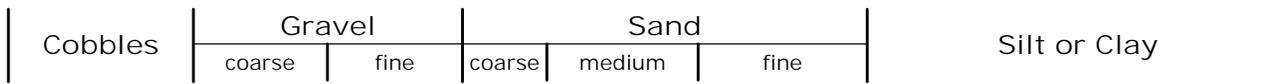
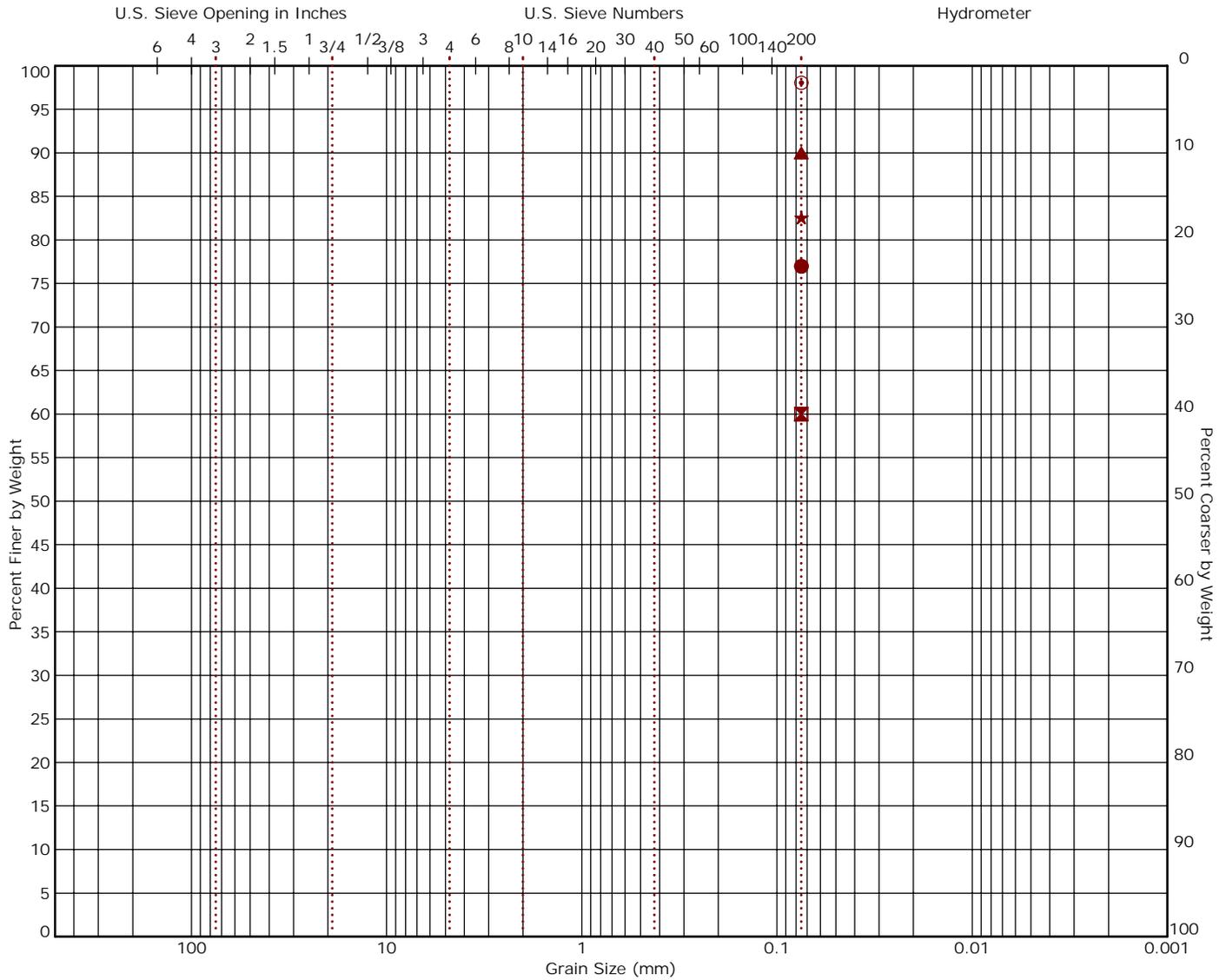


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-126	2 - 3.5	LEAN CLAY with SAND	29	16	13		
■ B-127	2 - 3.5	LEAN CLAY with SAND	30	16	14		
▲ B-128	3.5 - 5	LEAN CLAY with SAND					
★ B-129	0.5 - 2	LEAN CLAY with SAND	29	18	11		
⊙ B-130	2 - 3.5	LEAN CLAY	30	18	12		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-126	2 - 3.5	0.075							71.4		
■ B-127	2 - 3.5	0.075							81.6		
▲ B-128	3.5 - 5	0.075							82.5		
★ B-129	0.5 - 2	0.075							72.1		
⊙ B-130	2 - 3.5	0.075							88.8		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

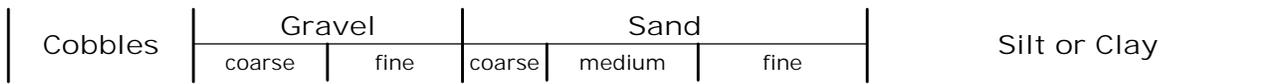
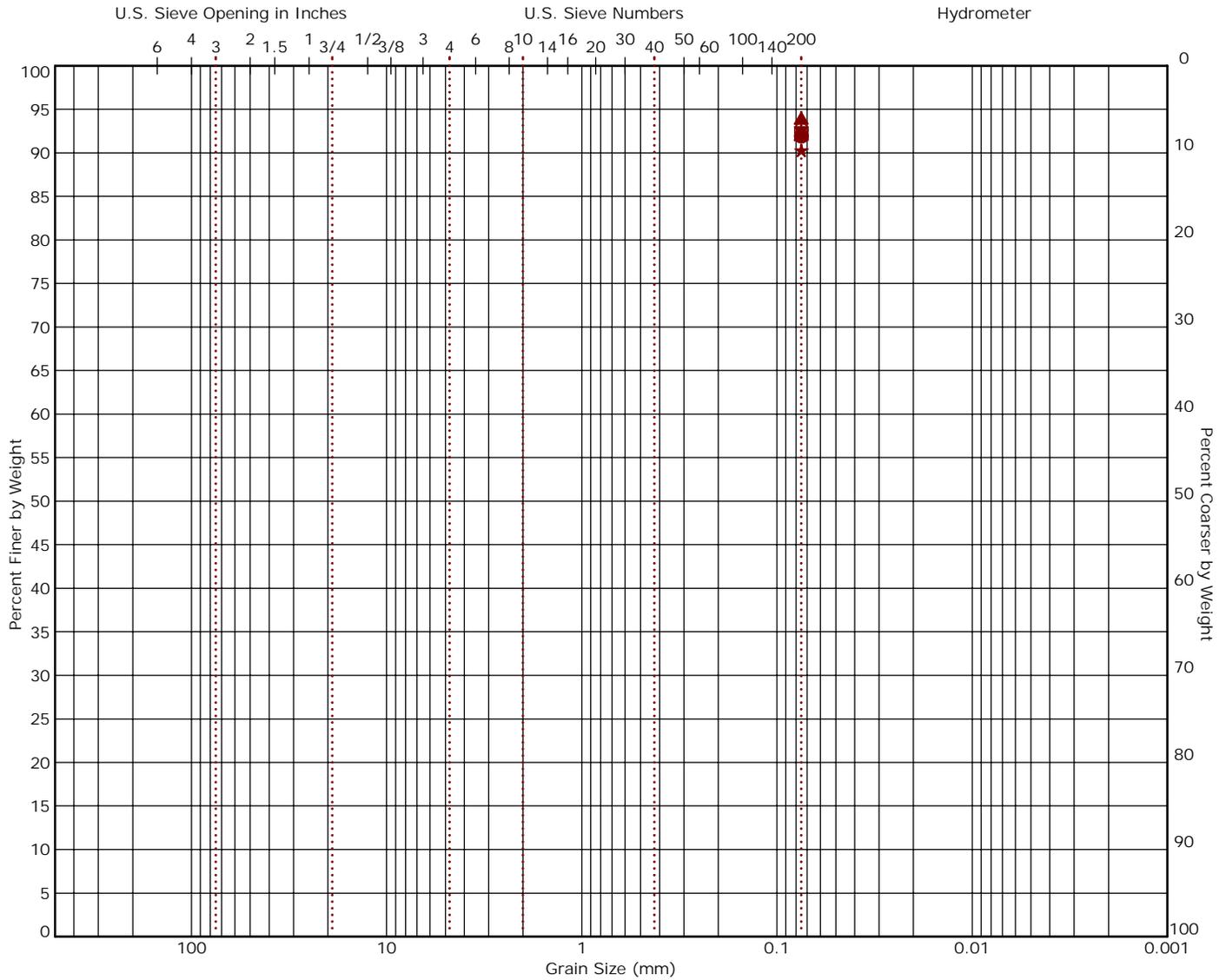


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-131	0.5 - 2	LEAN CLAY with SAND	41	17	24		
☒ B-132	0.5 - 2	SANDY LEAN CLAY	30	18	12		
▲ B-133	2 - 3.5	LEAN CLAY	42	18	24		
★ B-134	3.5 - 5	LEAN CLAY with SAND	42	16	26		
⊙ B-135	8.5 - 10	LEAN CLAY	40	24	16		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-131	0.5 - 2	0.075							77.0		
☒ B-132	0.5 - 2	0.075							60.0		
▲ B-133	2 - 3.5	0.075							90.0		
★ B-134	3.5 - 5	0.075							82.6		
⊙ B-135	8.5 - 10	0.075							98.1		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

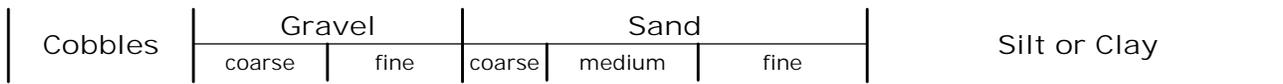
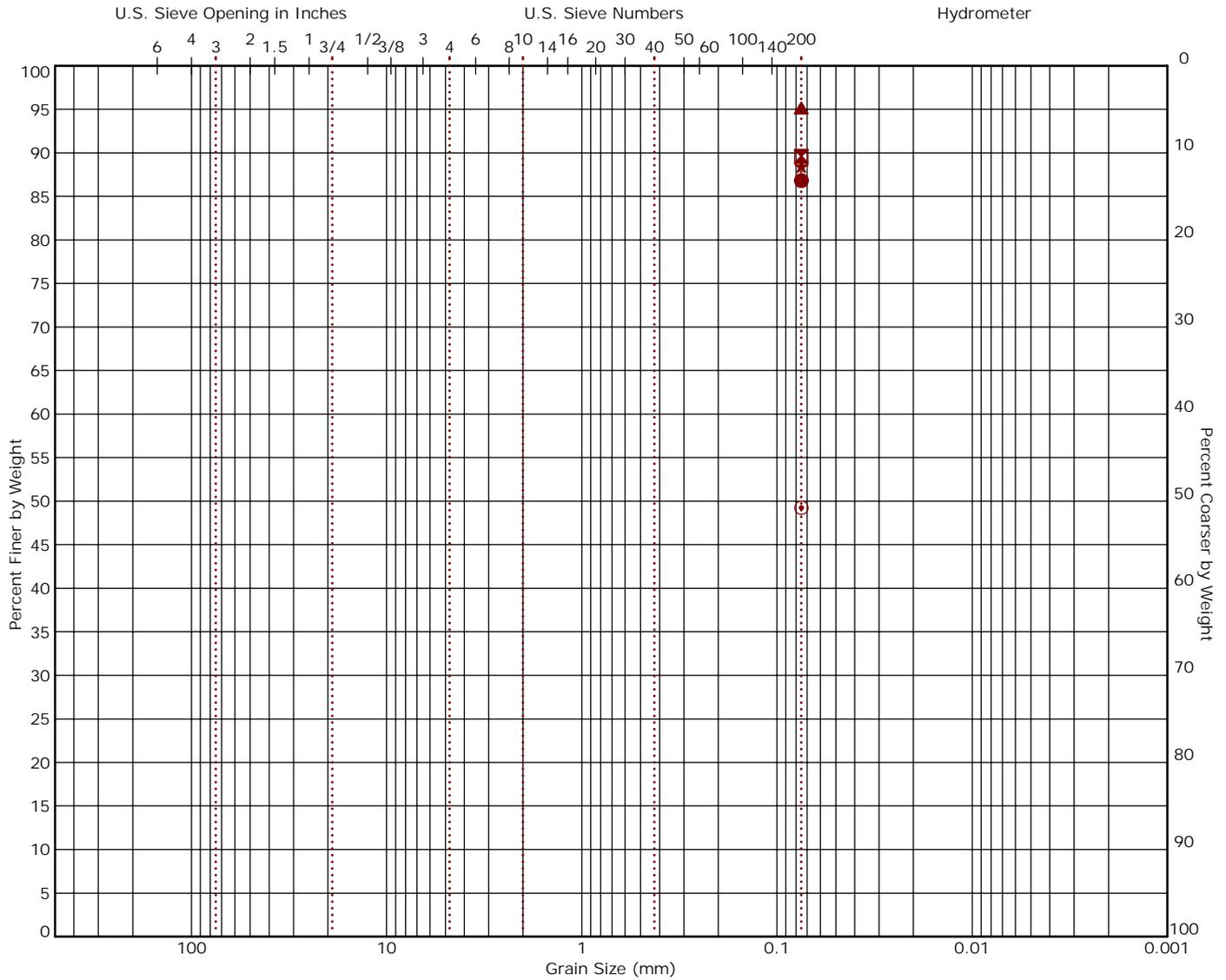


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-136	0.5 - 2	LEAN CLAY	31	19	12		
☒ B-137	0.5 - 2	LEAN CLAY	30	18	12		
▲ B-140	5 - 6.5	LEAN CLAY	38	13	25		
★ B-142	2 - 3	LEAN CLAY	32	21	11		
⊙ B-145	5 - 6.5	LEAN CLAY	45	17	28		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-136	0.5 - 2	0.075							91.9		
☒ B-137	0.5 - 2	0.075							92.2		
▲ B-140	5 - 6.5	0.075							94.0		
★ B-142	2 - 3	0.075							90.3		
⊙ B-145	5 - 6.5	0.075							92.6		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27

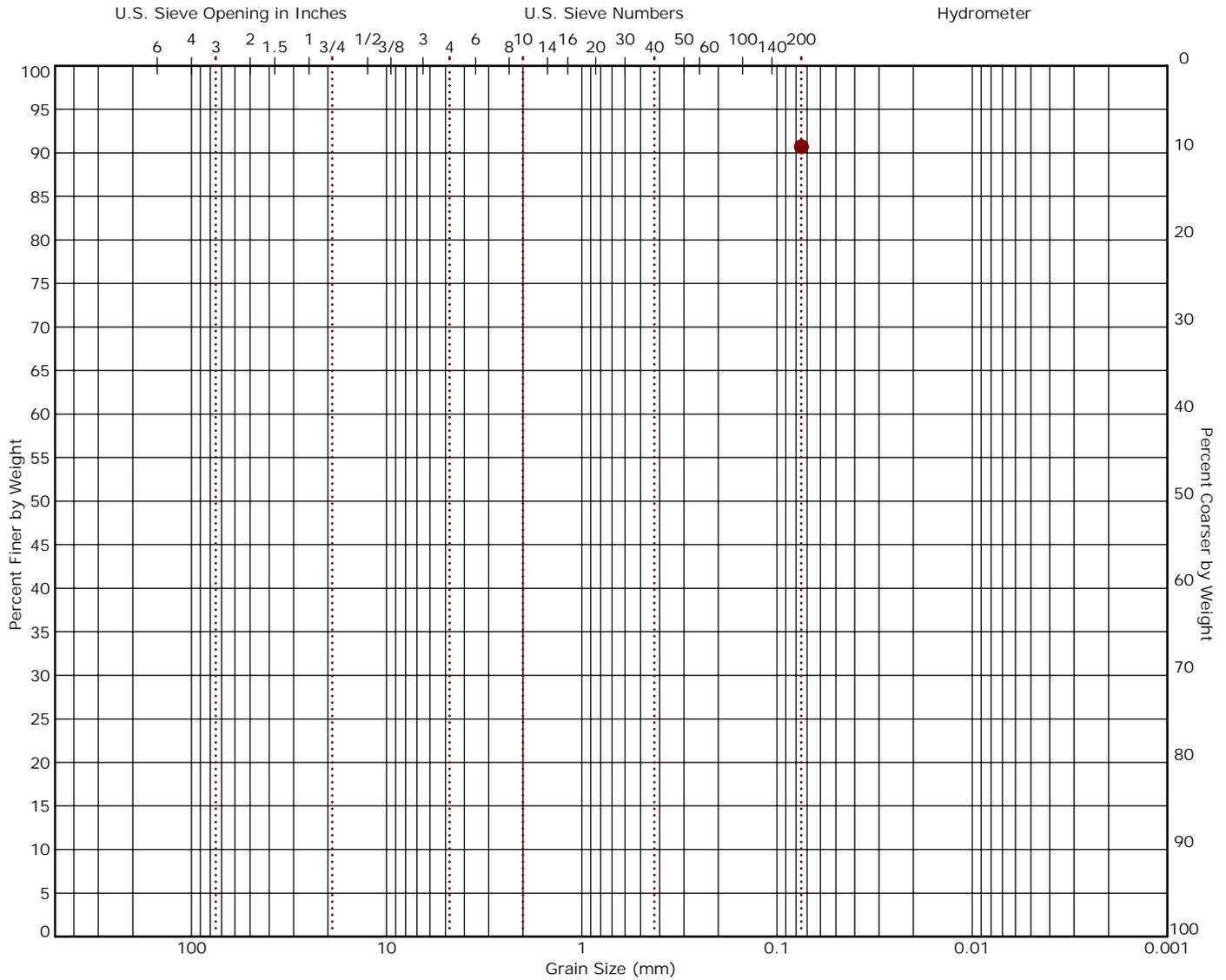


Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-146	3.5 - 5	FAT CLAY	50	17	33		
☒ B-148	3.5 - 5	LEAN CLAY	42	15	27		
▲ B-149	2 - 3.5	LEAN CLAY	47	22	25		
★ B-150	0.5 - 2	LEAN CLAY	49	15	34		
⊙ B-151	0.5 - 2	LEAN CLAY with SAND	NP	NP	NP		

Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-146	3.5 - 5	0.075							86.8		
☒ B-148	3.5 - 5	0.075							89.6		
▲ B-149	2 - 3.5	0.075							95.2		
★ B-150	0.5 - 2	0.075							88.5		
⊙ B-151	0.5 - 2	0.075							49.2		

Grain Size Distribution

ASTM D422 / ASTM C136 / AASHTO T27



Boring ID	Depth (Ft)	Description	LL	PL	PI	Cc	Cu
● B-152	3.5 - 5	LEAN CLAY	32	16	16		

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Boring ID	Depth (Ft)	D ₁₀₀	D ₆₀	D ₃₀	D ₁₀	% Cobbles	% Gravel	% Sand	% Fines	% Silt	% Clay
● B-152	3.5 - 5	0.075							90.7		

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California Bearing Ratio Test (CBR)

4765 W Junction St
Springfield, MO 65802
(417) 864-5100

Client Name: Kimley-Horn and Associates Inc
Project Name: Clydesdale Design Level Geotech
Location: E 76th Street N

Boring Number: B-101
Depth: 5-7
Sample Description: Lean Clay with Sand

Project No.: 04255087 Date: 7/30/2025

Proctor Compaction Data:

Proctor Test Procedure: D698
Maximum Dry Density: 107.7 pcf
Optimum Moisture Content: 17.1 %
USCS Classification: CL

CBR Specimen Compaction Data:

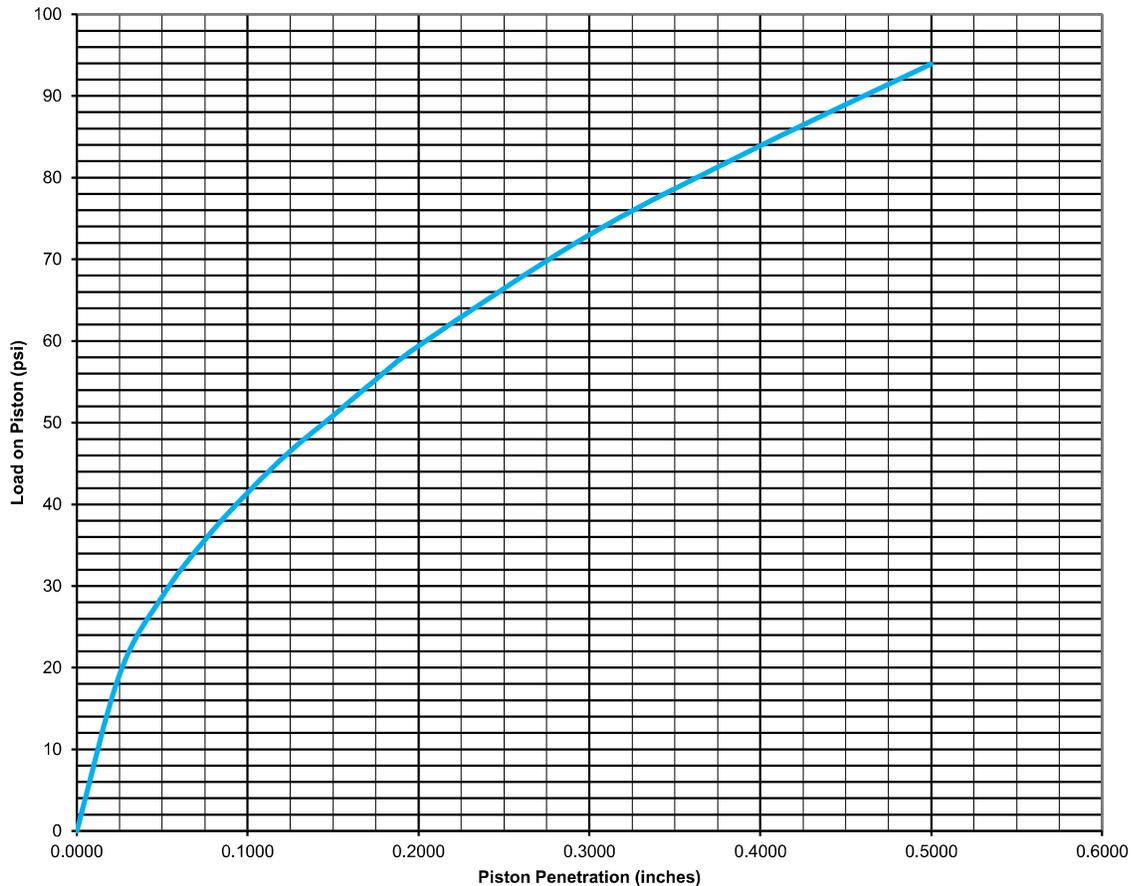
CBR Test Procedure: ASTM D 1883
Initial Moisture Content: 18.2 %
Dry Density Before Soaking: 107.4 pcf
Percent Compaction: 99.7% %
Moisture Content After Compaction: 17.8 %
Dry Density After Soaking: 107.7 pcf
Moisture Content After Soaking: 18.8 %
CBR at 0.100 inches penetration: 4.1 %
CBR at 0.200 inches penetration: 4.0 %

Soil Index Properties:

Liquid Limit: 35 % Passing No. 200 81.0 %
Plasticity Index: 20
Plastic Limit: 15

Specimen Swell Data:

Surcharge Load: 10 lb
Compaction: 100.0 %
Swell (96 Hours): 0.29 %





California Bearing Ratio Test (CBR)

4765 W Junction St
Springfield, MO 65802
(417) 864-5100

Client Name: Kimley-Horn and Associates Inc
Project Name: Clydesdale Design Level Geotech
Location: E 76th Street N

Boring Number: B-121
Depth: 5-7
Sample Description: Lean Clay

Project No.: 04255087 Date: 7/30/2025

Proctor Compaction Data:

Proctor Test Procedure: D698
Maximum Dry Density: 112.2 pcf
Optimum Moisture Content: 15.5 %
USCS Classification: CL

CBR Specimen Compaction Data:

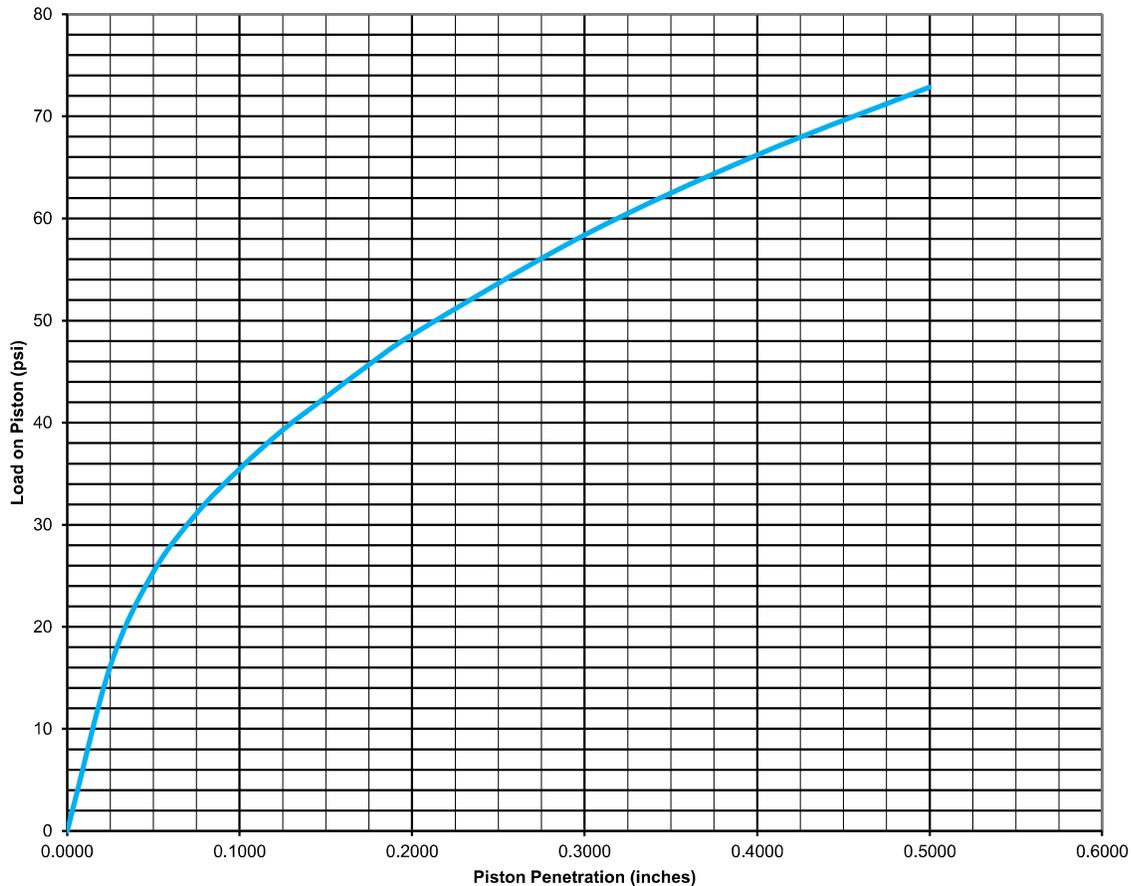
CBR Test Procedure: ASTM D 1883
Initial Moisture Content: 15.5 %
Dry Density Before Soaking: 111.2 pcf
Percent Compaction: 99.1% %
Moisture Content After Compaction: 15.5 %
Dry Density After Soaking: 110.1 pcf
Moisture Content After Soaking: 17.7 %
CBR at 0.100 inches penetration: 3.5 %
CBR at 0.200 inches penetration: 3.2 %

Soil Index Properties:

Liquid Limit: 35 % Passing No. 200 87.0 %
Plasticity Index: 21
Plastic Limit: 14

Specimen Swell Data:

Surcharge Load: 10 lb
Compaction: 98.1 %
Swell (96 Hours): 1.24 %





California Bearing Ratio Test (CBR)

4765 W Junction St
Springfield, MO 65802
(417) 864-5100

Client Name: Kimley-Horn and Associates Inc
Project Name: Clydesdale Design Level Geotech
Location: E 76th Street N

Boring Number: B-140
Depth: 5-7
Sample Description: Lean Clay

Project No.: 04255087 Date: 7/30/2025

Proctor Compaction Data:

Proctor Test Procedure: D698
Maximum Dry Density: 106.4 pcf
Optimum Moisture Content: 18.2 %
USCS Classification: CL

CBR Specimen Compaction Data:

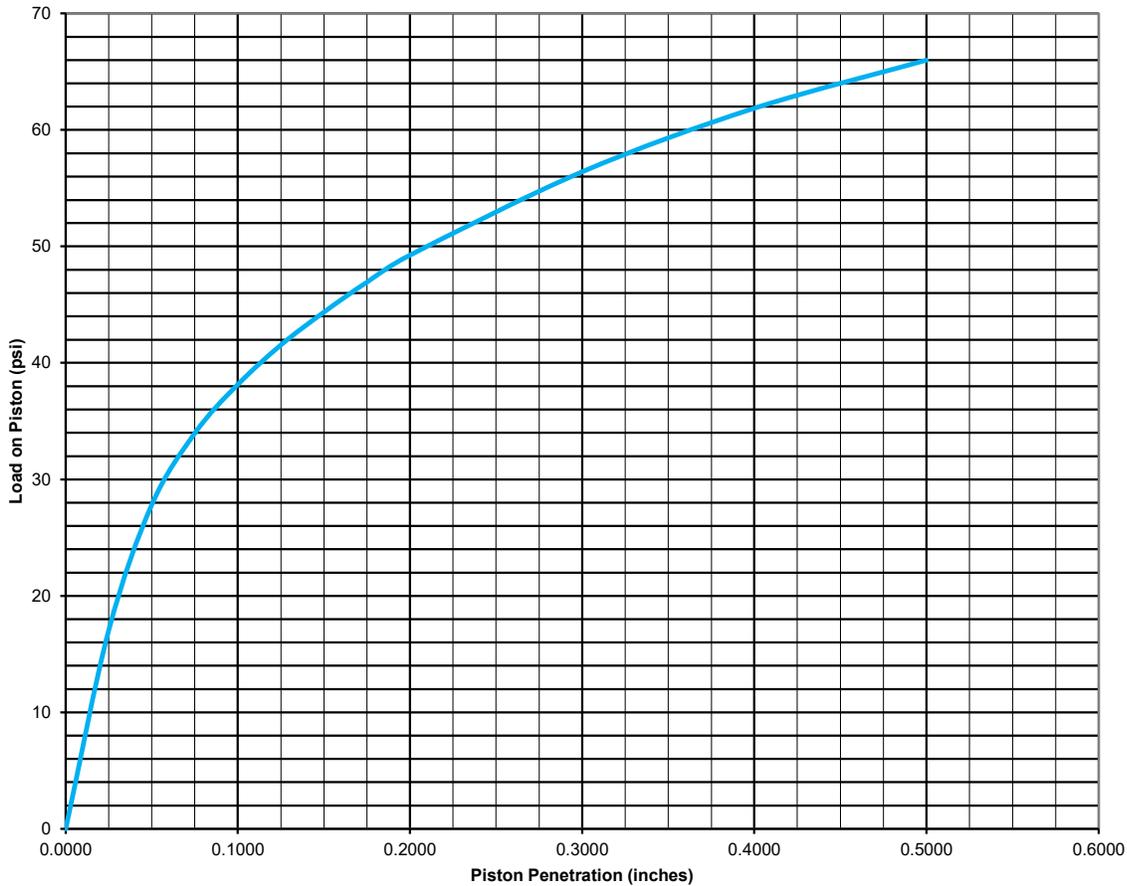
CBR Test Procedure: ASTM D 1883
Initial Moisture Content: 17.7 %
Dry Density Before Soaking: 107.1 pcf
Percent Compaction: 100.7% %
Moisture Content After Compaction: 19.0 %
Dry Density After Soaking: 107.4 pcf
Moisture Content After Soaking: 18.3 %
CBR at 0.100 inches penetration: 3.8 %
CBR at 0.200 inches penetration: 3.3 %

Soil Index Properties:

Liquid Limit: 38 % Passing No. 200 91.0 %
Plasticity Index: 25
Plastic Limit: 13

Specimen Swell Data:

Surcharge Load: 10 lb
Compaction: 100.9 %
Swell (96 Hours): 0.51 %





California Bearing Ratio Test (CBR)

4765 W Junction St
Springfield, MO 65802
(417) 864-5100

Client Name: Kimley-Horn and Associates Inc
Project Name: Project Clydesdale Design Level Geotech
Location: E 76th St N

Boring Number: B-200
Depth: 1'-4'
Sample Description: Lean Clay; Brown

Project No.: 04255087 Date: 7/15/2025

Proctor Compaction Data:

Proctor Test Procedure: D698
Maximum Dry Density: 96.7 pcf
Optimum Moisture Content: 19.9 %
USCS Classification: CL

CBR Specimen Compaction Data:

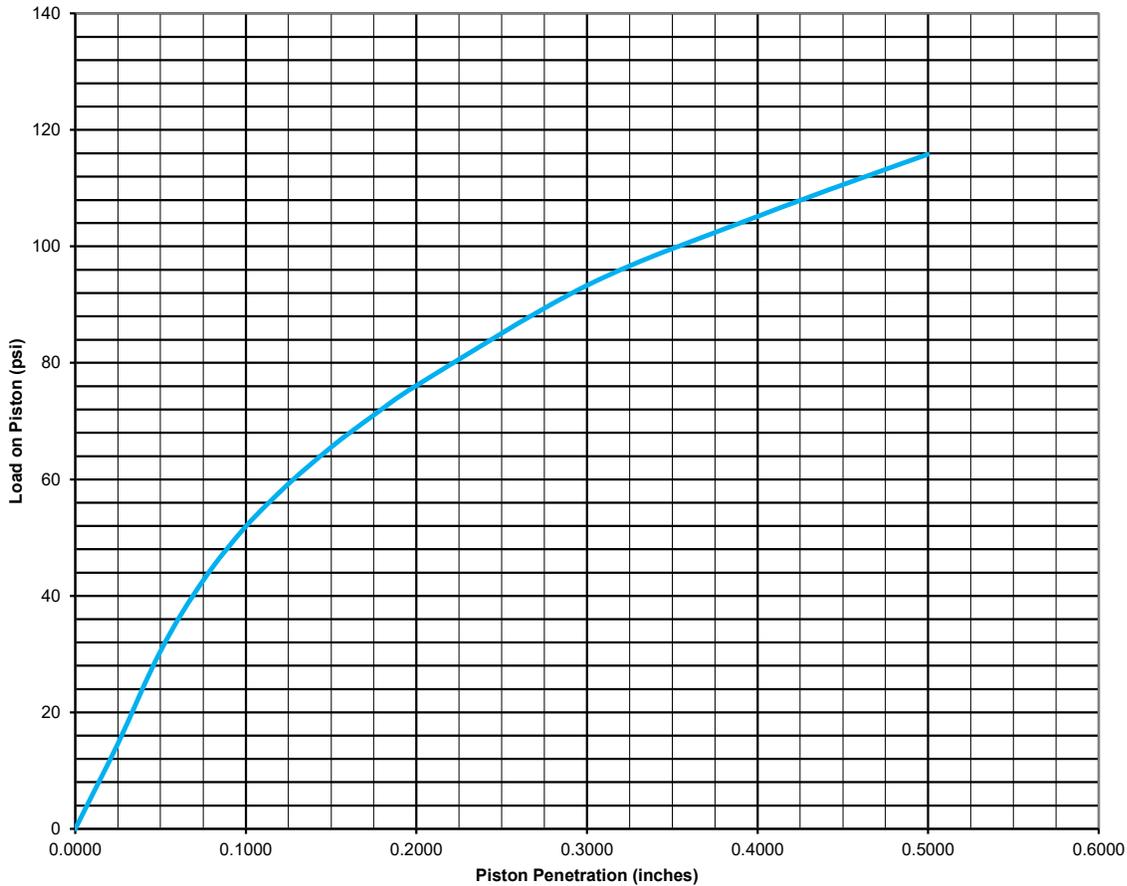
CBR Test Procedure: ASTM D 1883
Initial Moisture Content: 21.0 %
Dry Density Before Soaking: 98.3 pcf
Percent Compaction: 101.6% %
Moisture Content After Compaction: 22.4 %
Dry Density After Soaking: 99.3 pcf
Moisture Content After Soaking: 21.5 %
CBR at 0.100 inches penetration: 5.2 %
CBR at 0.200 inches penetration: 5.1 %

Soil Index Properties:

Liquid Limit: 47 % Passing No. 200 90.4 %
Plasticity Index: 28
Plastic Limit: 19

Specimen Swell Data:

Surcharge Load: 10 lb
Compaction: 102.7 %
Swell (96 Hours): 1.27 %





California Bearing Ratio Test (CBR)

4765 W Junction St
Springfield, MO 65802
(417) 864-5100

Client Name: Kimley-Horn and Associates Inc
Project Name: Clydesdale Design Level Geotech
Location: E 76th Street N

Boring Number: B-171
Depth: 5-7
Sample Description: Lean Clay

Project No.: 04255087 Date: 8/13/2025

Proctor Compaction Data:

Proctor Test Procedure: D698
Maximum Dry Density: 111.4 pcf
Optimum Moisture Content: 16.2 %
USCS Classification: CL

CBR Specimen Compaction Data:

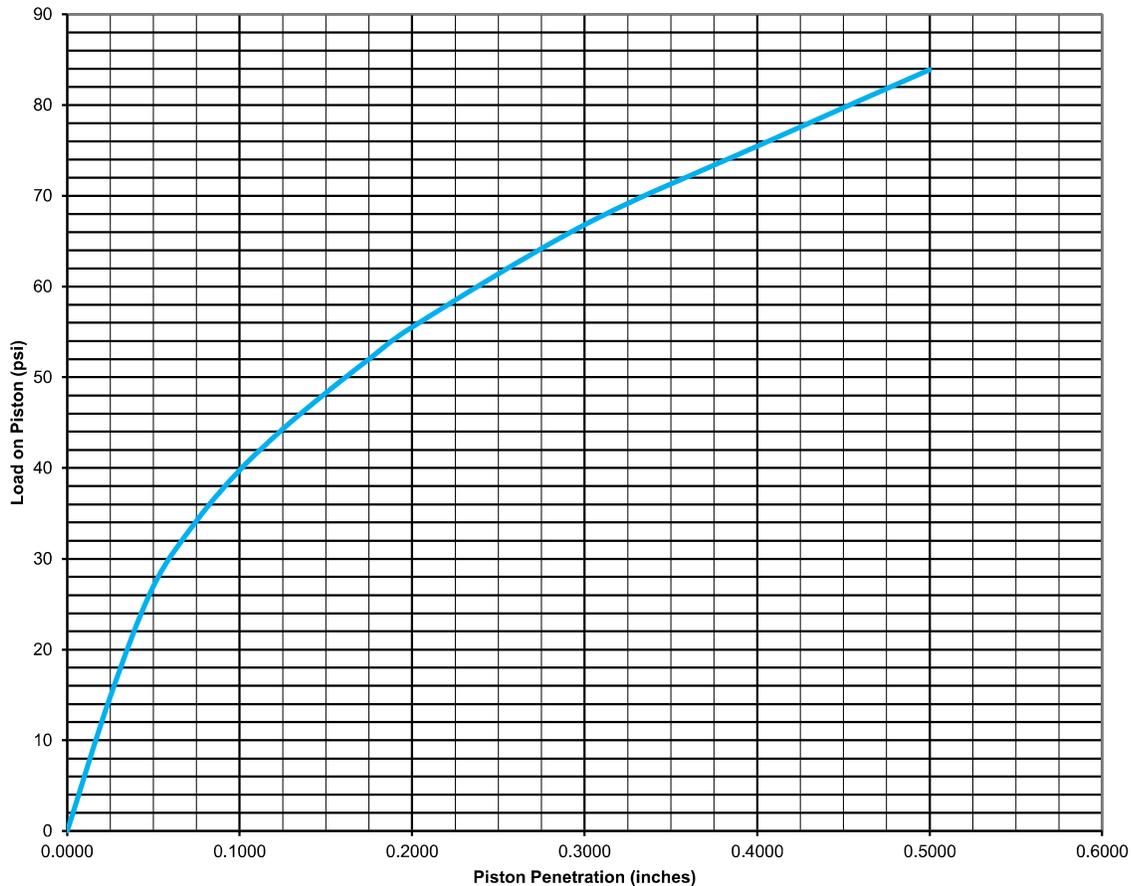
CBR Test Procedure: ASTM D 1883
Initial Moisture Content: 17.2 %
Dry Density Before Soaking: 110.6 pcf
Percent Compaction: 99.3% %
Moisture Content After Compaction: 16.9 %
Dry Density After Soaking: 110.2 pcf
Moisture Content After Soaking: 18.8 %
CBR at 0.100 inches penetration: 4.0 %
CBR at 0.200 inches penetration: 3.7 %

Soil Index Properties:

Liquid Limit: 36 % Passing No. 200 95.0 %
Plasticity Index: 19
Plastic Limit: 17

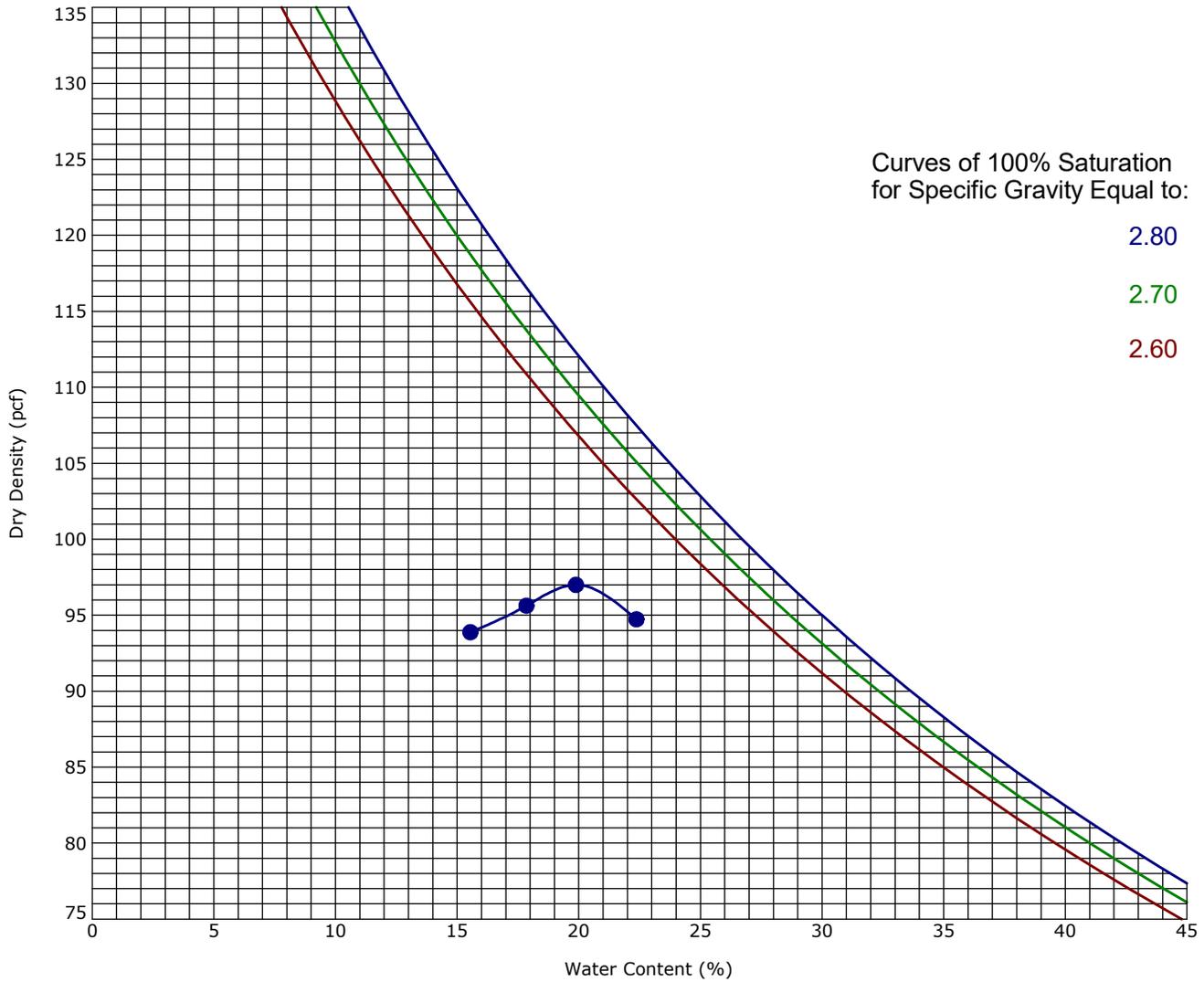
Specimen Swell Data:

Surcharge Load: 10 lb
Compaction: 99.0 %
Swell (96 Hours): 1.34 %



Moisture-Density Relationship

ASTM D698-Method A

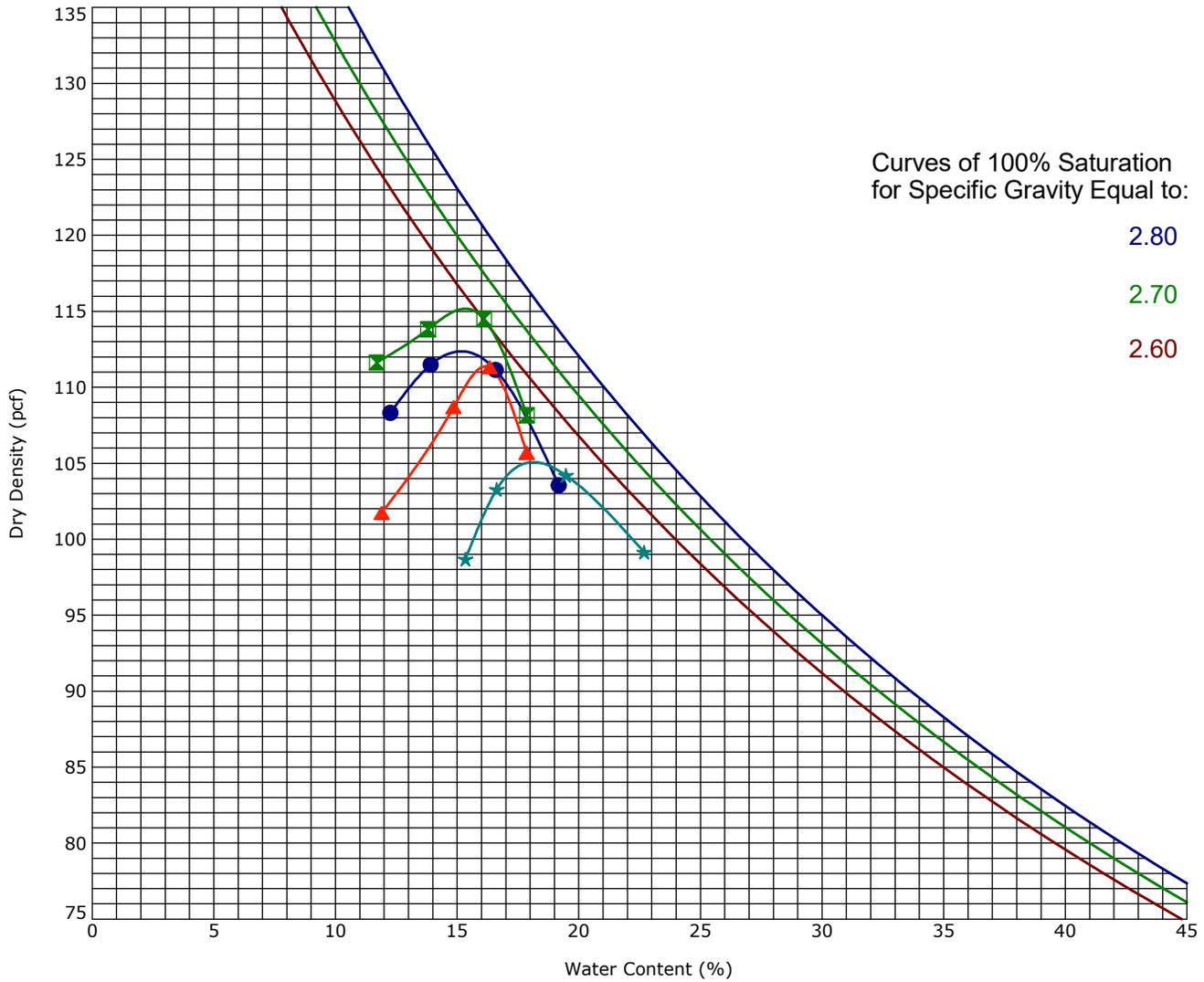


Boring ID	Depth (Ft)	Fines (%)	LL	PL	PI	Description of Materials
B-200	0	86	47	19	28	LEAN CLAY (CL)

Boring ID	Depth (Ft)	Test Method	Max DD (pcf)	Optimum WC (%)
B-200	0	ASTM D698-Method A	97.0	19.9

Moisture-Density Relationship

ASTM D698-Method A

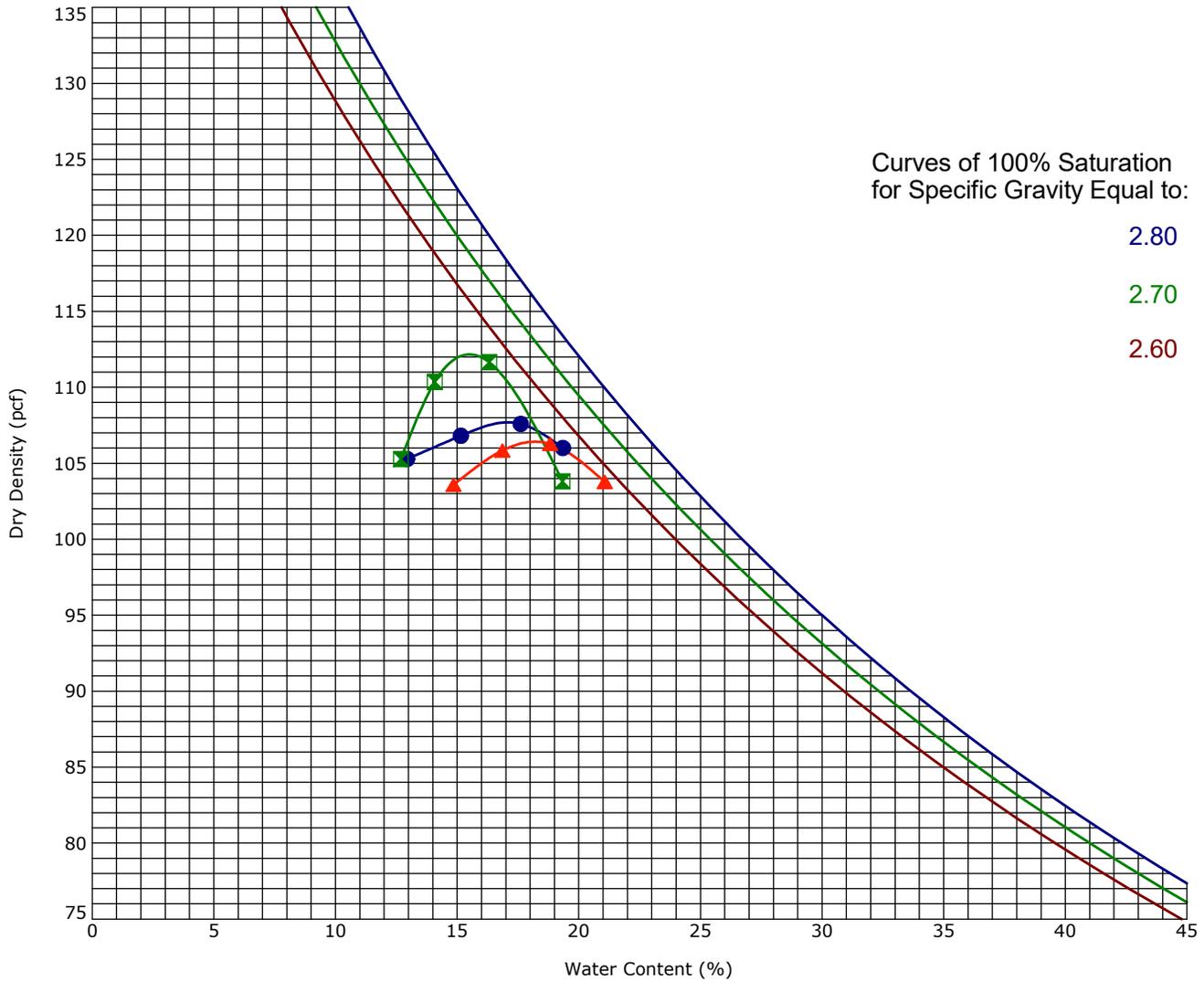


Boring ID	Depth (Ft)	Fines (%)	LL	PL	PI	Description of Materials
B-164	2.5	76	30	15	15	LEAN CLAY with SAND (CL)
B-164	7.5 - 7.5	88	30	17	13	LEAN CLAY (CL)
B-171	5	95	36	17	19	LEAN CLAY (CL)
B-225	7.5	90	59	15	44	FAT CLAY (CH)

Boring ID	Depth (Ft)	Test Method	Max DD (pcf)	Optimum WC (%)
B-164	2.5	ASTM D698-Method A	112.4	15.2
B-164	7.5 - 7.5	ASTM D698-Method A	115.2	15.4
B-171	5	ASTM D698-Method A	111.4	16.2
B-225	7.5	ASTM D698-Method A	105.1	18.1

Moisture-Density Relationship

ASTM D698-Method A



Boring ID	Depth (Ft)	Fines (%)	LL	PL	PI	Description of Materials
B-101	5 - 5	81	35	15	20	LEAN CLAY with SAND (CL)
B-121A	5	87	35	14	21	LEAN CLAY (CL)
B-140	5	91	38	13	25	LEAN CLAY (CL)

Boring ID	Depth (Ft)	Test Method	Max DD (pcf)	Optimum WC (%)
B-101	5 - 5	ASTM D698-Method A	107.7	17.1
B-121A	5	ASTM D698-Method A	112.2	15.5
B-140	5	ASTM D698-Method A	106.4	18.2

Project

IOB - Project Clydesdale Design Level Geotech
B5255061

Date Received: 7/28/2025

Corrosivity Suite - Results

Sample Location		B-165	B-178	B-224
Sample Depth (ft.)		2.5-11.5	5'	5'
Acidity (pH)	AASHTO T289	6.1	8.9	6.2
Water Soluble Sulfate Ion Content (mg/Kg)	ASTM C1580	162	779	194
Water Soluble Sulfide Content (mg/Kg)	AWWA 4500-S,D	Nil	Nil	Nil
Water Soluble Chloride Ion Content (mg/Kg)	ASTM D512	35	185	42
Oxidation-Reduction Potential (RmV)	ASTM G200	243	227	337
Total Dissolved Salts (mg/Kg)	AWWA 2520 B	117	1460	366
Electrical Resistivity (Ω -cm)	ASTM G57	16000	1100	3000

Verified By: Myles Warner

8/13/2025

page 1 of 2

These tests were performed in general accordance with the applicable AASHTO, ASTM, and AWWA test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced without the full written consent of Terracon Consultants Inc.. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar materials.

Project

IOB - Project Clydesdale Design Level Geotech
B5255061

Date Received: 6/27/2025

Corrosivity Suite - Results

Sample Location		B - 196	B - 205	B - 218
Sample Depth (ft.)		5'	-	-
Acidity (pH)	AASHTO T289	5.4	7.7	5.7
Water Soluble Sulfate Ion Content (mg/Kg)	ASTM C1580	214	304	115
Water Soluble Sulfide Content (mg/Kg)	AWWA 4500-S,D	Nil	Nil	Nil
Water Soluble Chloride Ion Content (mg/Kg)	ASTM D512	26	40	47
Oxidation-Reduction Potential (RmV)	ASTM G200	135	129	149
Total Dissolved Salts (mg/Kg)	AWWA 2520 B	107	453	194
Electrical Resistivity (Ω -cm)	ASTM G57	8400	1400	2000

Verified By: Myles Warner
7/2/2025

These tests were performed in general accordance with the applicable AASHTO, ASTM, and AWWA test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced without the full written consent of Terracon Consultants Inc.. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar materials.

Project

IOB - Project Clydesdale Design Level Geotech
B5255061

Date Received: 8/11/2025

Corrosivity Suite - Results

Sample Location		B - 106	B - 122	B - 159
Sample Depth (ft.)		-	-	-
Acidity (pH)	AASHTO T289	8.8	8.1	8.8
Water Soluble Sulfate Ion Content (mg/Kg)	ASTM C1580	368	881	386
Water Soluble Sulfide Content (mg/Kg)	AWWA 4500-S,D	Nil	Nil	Nil
Water Soluble Chloride Ion Content (mg/Kg)	ASTM D512	24	160	120
Oxidation-Reduction Potential (RmV)	ASTM G200	285	292	218
Total Dissolved Salts (mg/Kg)	AWWA 2520 B	750	1150	600
Electrical Resistivity (Ω -cm)	ASTM G57	3100	1500	2400

Verified By: Myles Warner
8/19/2025

These tests were performed in general accordance with the applicable AASHTO, ASTM, and AWWA test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced without the full written consent of Terracon Consultants Inc.. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar materials.

Thermal Resistivity by Needle Point Probe - ASTM D5334



Report Date: 09/11/2025

70 Vantage Point Dr, Ste 1
Rochester, NY 14624

Project Name : Project Clydesdale Design Level Geotech

Location : B-164 @ 2.5'

Project No. : 04255087

Soil Description : Lean Clay

Client : Confidential

USCS Soil Classification : CL

Summary of Test Results

Method of Compaction : Standard Proctor

Maximum Dry Density : 112.4 pcf

Optimum Water Content : 15.2%

Density of Specimen : 101.2pcf @90%

TEMPOS Meter : Tempos : TEM00001839

Needle Used : TR-4: 4437

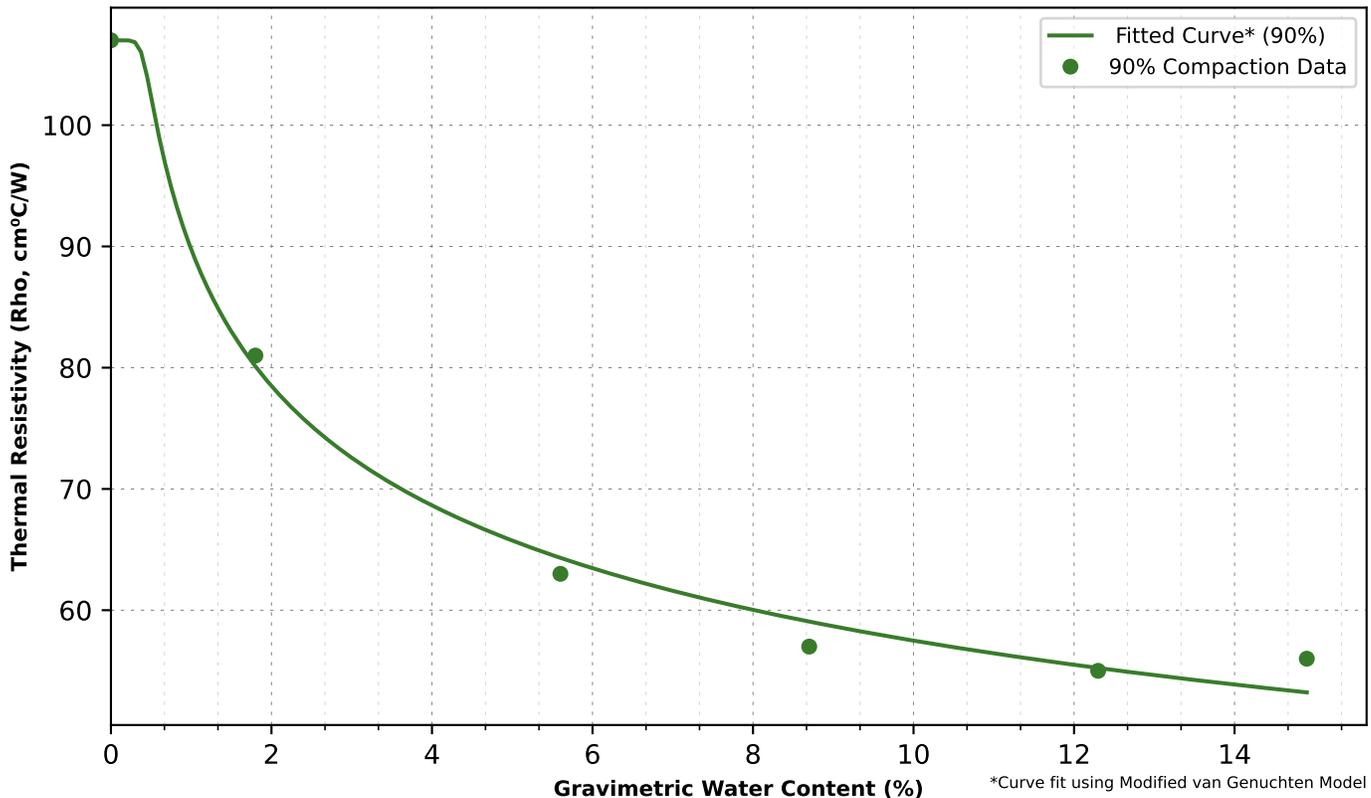
Needle Diameter/Length : 1.9mm/100mm

Method of Insertion : Pushed

Grease Used : Arctic MX-4

90% Compaction		
WC (%)	Thermal Resistivity (cm°C/W)	Test Temp (°C)
14.9	56	21.1
12.3	55	20.8
8.7	57	21.7
5.6	63	19.7
1.8	81	20.7
0.0	107	21.4

Thermal Characteristic Drying Curve



Thermal Resistivity by Needle Point Probe - ASTM D5334



Report Date: 09/11/2025

70 Vantage Point Dr, Ste 1
Rochester, NY 14624

Project Name : Project Clydesdale Design Level Geotech

Location : B-225 @ 7.5'

Project No. : 04255087

Soil Description : Lean Clay

Client : Confidential

USCS Soil Classification : CL

Summary of Test Results

Method of Compaction : Standard Proctor

Maximum Dry Density : 105.1 pcf

Optimum Water Content : 18.1%

Density of Specimen : 94.6pcf @90%

TEMPOS Meter : Tempos : TEM00001839

Needle Used : TR-4: 4437

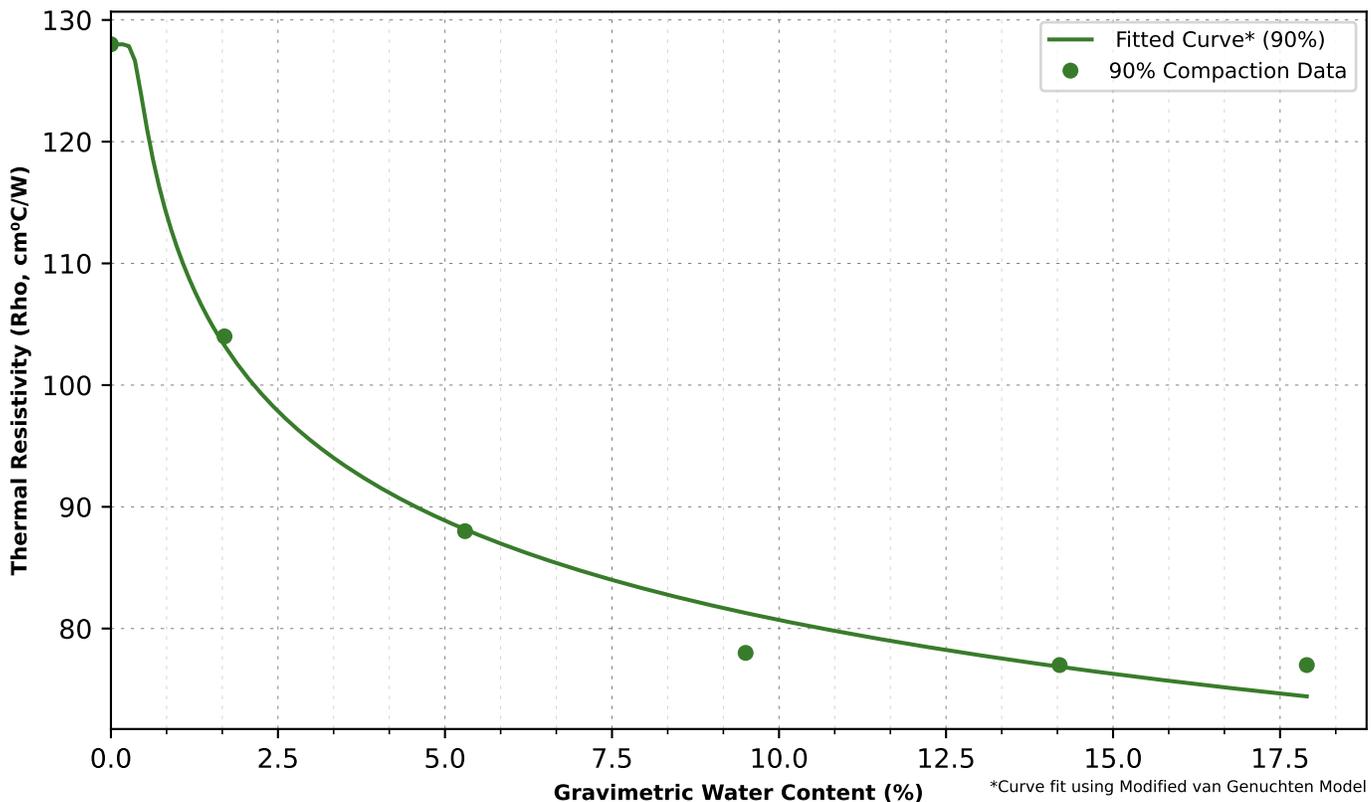
Needle Diameter/Length : 1.9mm/100mm

Method of Insertion : Pushed

Grease Used : Arctic MX-4

90% Compaction		
WC (%)	Thermal Resistivity (cm°C/W)	Test Temp (°C)
17.9	77	22.5
14.2	77	21.4
9.5	78	23.1
5.3	88	23.0
1.7	104	23.4
0.0	128	22.4

Thermal Characteristic Drying Curve



Thermal Resistivity by Needle Point Probe - ASTM D5334



Report Date: 09/11/2025

70 Vantage Point Dr, Ste 1
Rochester, NY 14624

Project Name : Project Clydesdale Design Level Geotech

Location : B-119, 1'-3'

Project No. : 04255087

Soil Description : Lean Clay

Client : Confidential

USCS Soil Classification : CL

Summary of Test Results

TEMPOS Meter : Tempos : TEM00001839

Needle Used : TR-4: 4437

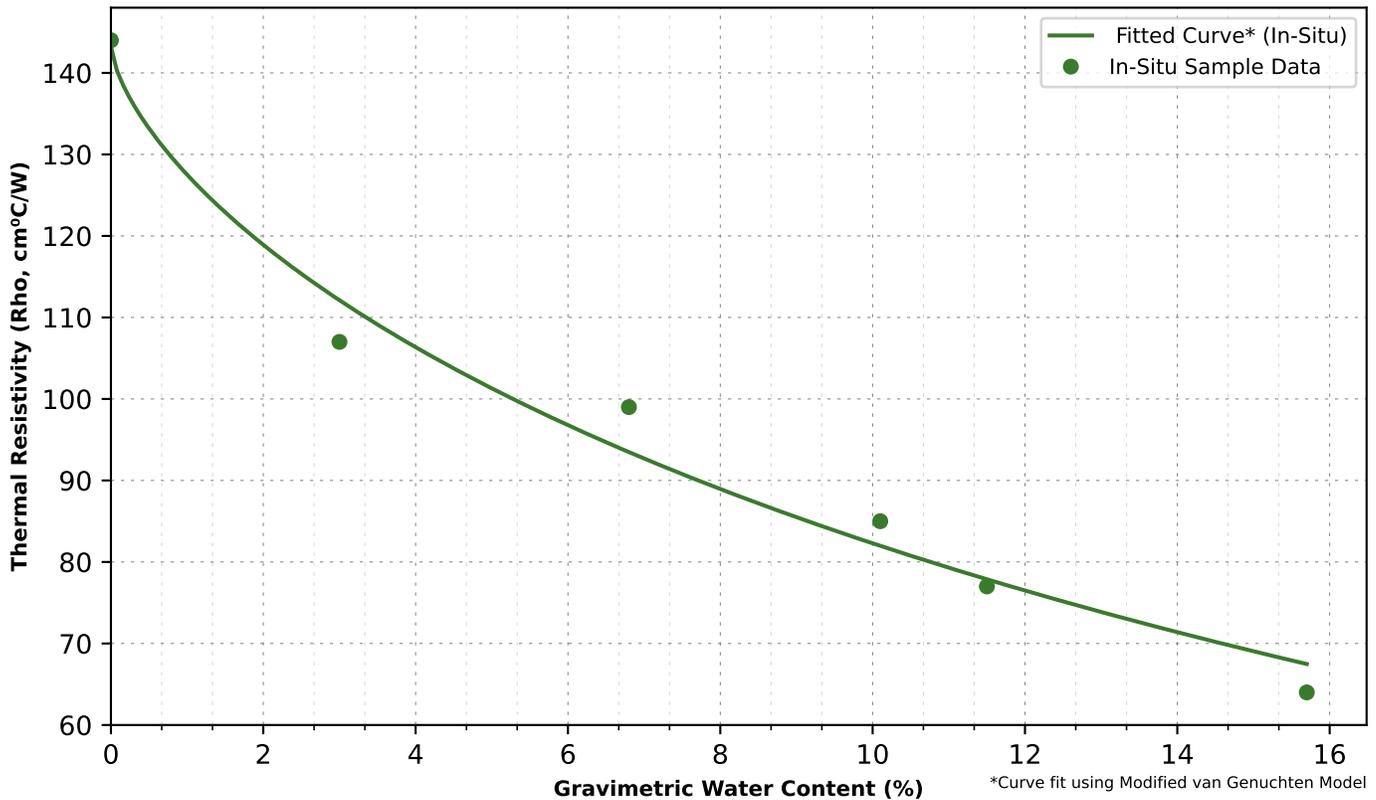
Needle Diameter/Length : 1.9mm/100mm

Method of Insertion : Pushed

Grease Used : Arctic MX-4

In-Situ Sample		
WC (%)	Thermal Resistivity (cm°C/W)	Test Temp (°C)
15.7	64	21.4
11.5	77	22.0
10.1	85	22.0
6.8	99	21.0
3.0	107	21.4
0.0	144	20.9

Thermal Characteristic Drying Curve



Thermal Resistivity by Needle Point Probe - ASTM D5334



Report Date: 09/12/2025

70 Vantage Point Dr, Ste 1
Rochester, NY 14624

Project Name : Project Clydesdale Design Level Geotech

Location : B-219, 4'-8'

Project No. : 04255087

Soil Description : Lean Clay

Client : Confidential

USCS Soil Classification : CL

Summary of Test Results

TEMPOS Meter : Tempos : TEM00001839

Needle Used : TR-4: 4437

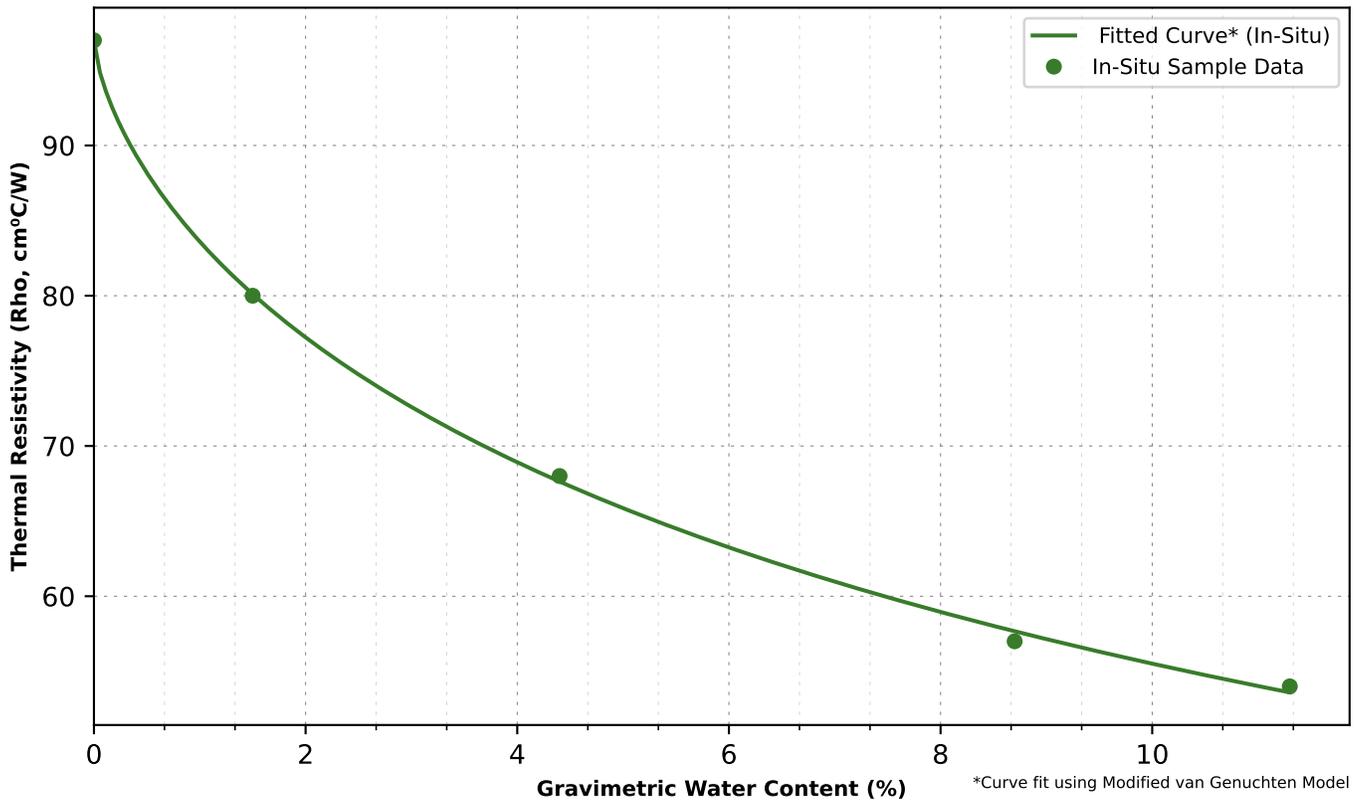
Needle Diameter/Length : 1.9mm/100mm

Method of Insertion : Pushed

Grease Used : Arctic MX-4

In-Situ Sample		
WC (%)	Thermal Resistivity (cm°C/W)	Test Temp (°C)
11.3	54	21.0
8.7	57	21.1
4.4	68	20.6
1.5	80	20.3
0.0	97	20.6

Thermal Characteristic Drying Curve



Subsurface Profile Fences

Phase 1 Fence Lines

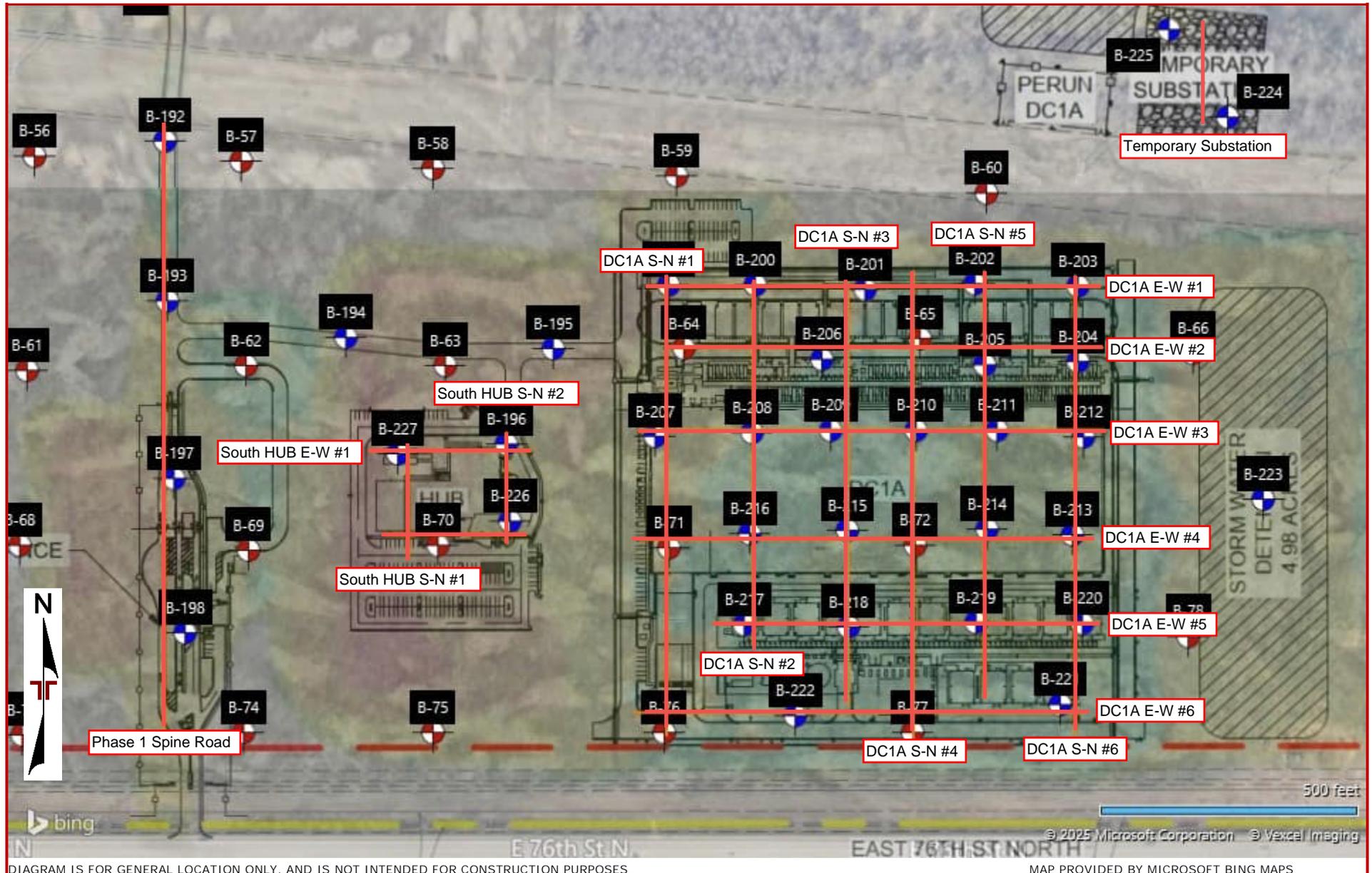
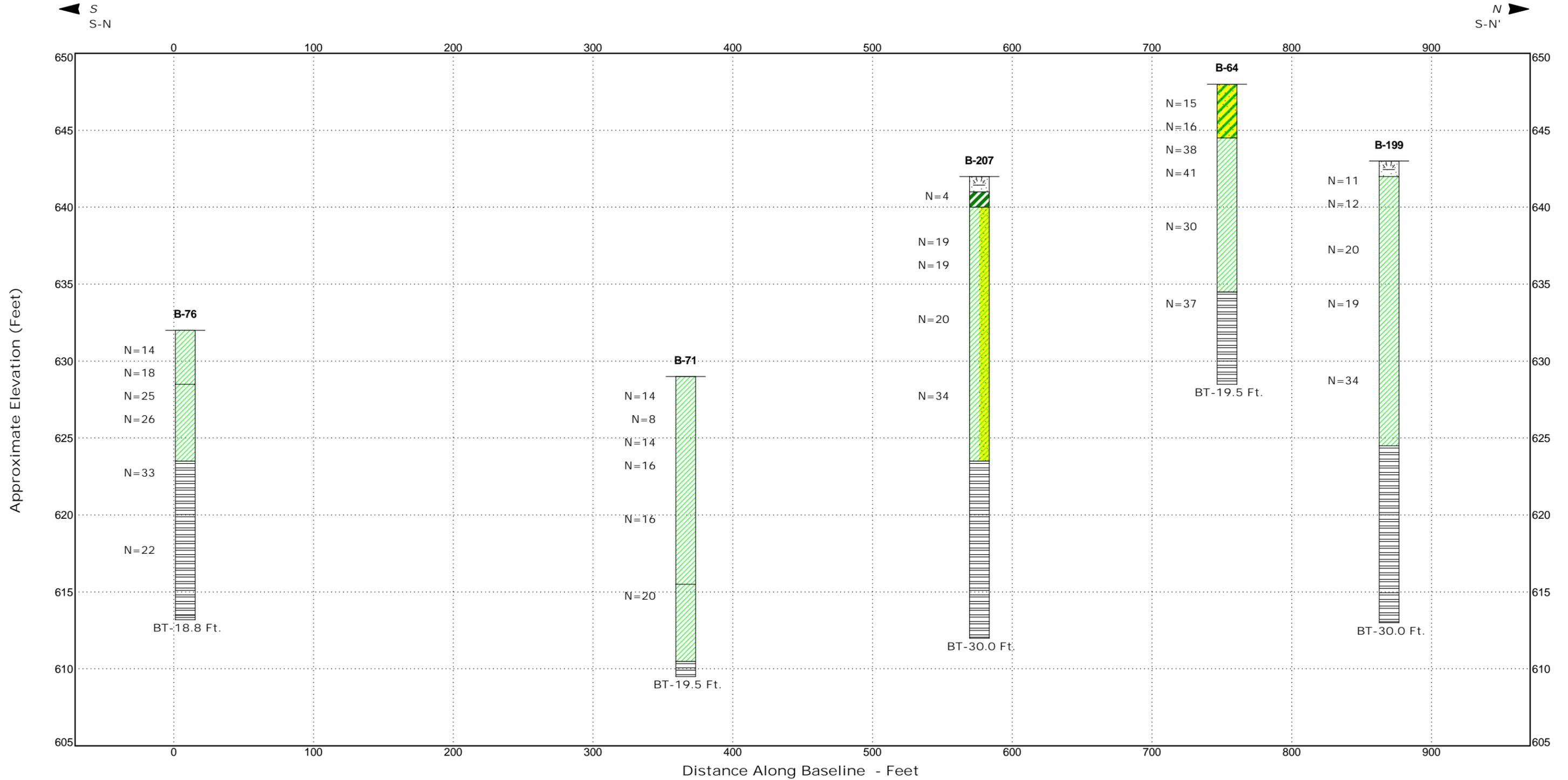


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Subsurface Profile

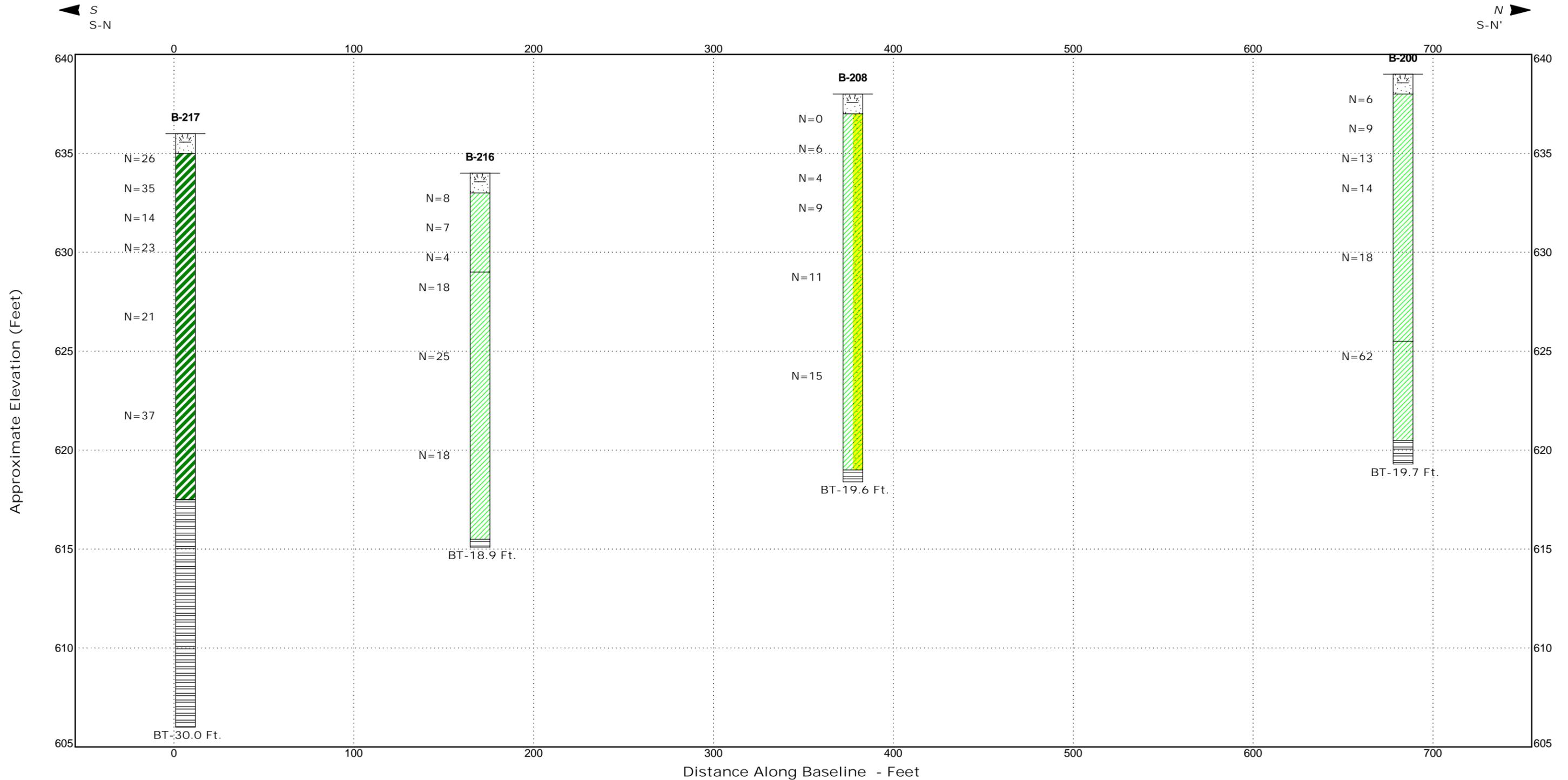
DC1A S-N #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-199 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Shale Fat Clay Lean Clay with Sand Clayey Sand</p>

Subsurface Profile

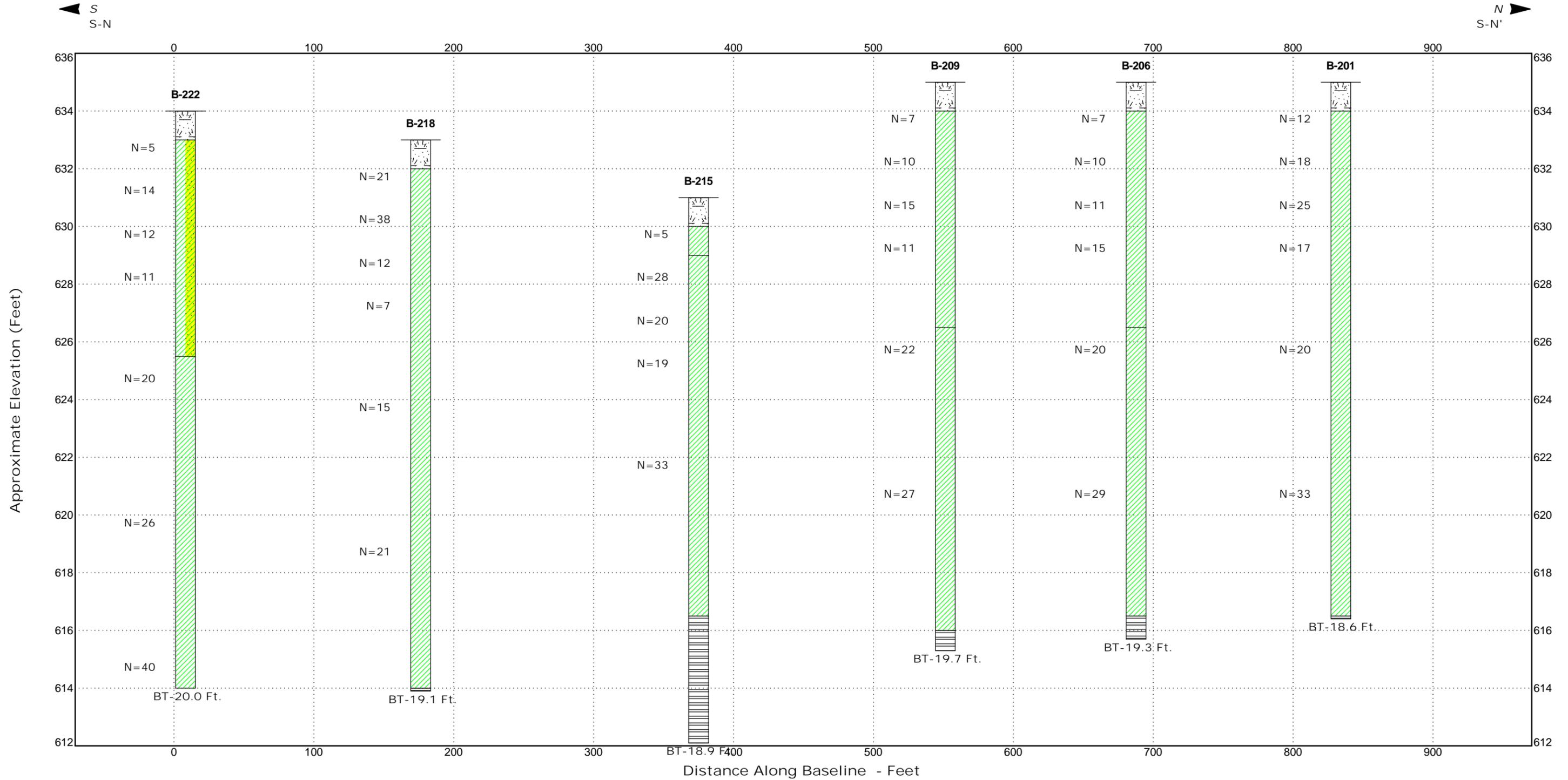
DC1A S-N #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-200 — Borehole Number</p> <p>☒ — LL PL — Liquid and Plastic Limits</p> <p>■ — Borehole Lithology</p> <p>▬ — Borehole Termination Type</p> <p>AR — Auger Refusal</p> <p>BT — Boring Termination</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>Topsoil</p> <p>Lean Clay</p> <p>Shale</p> <p>Lean Clay with Sand</p> <p>Fat Clay</p>

Subsurface Profile

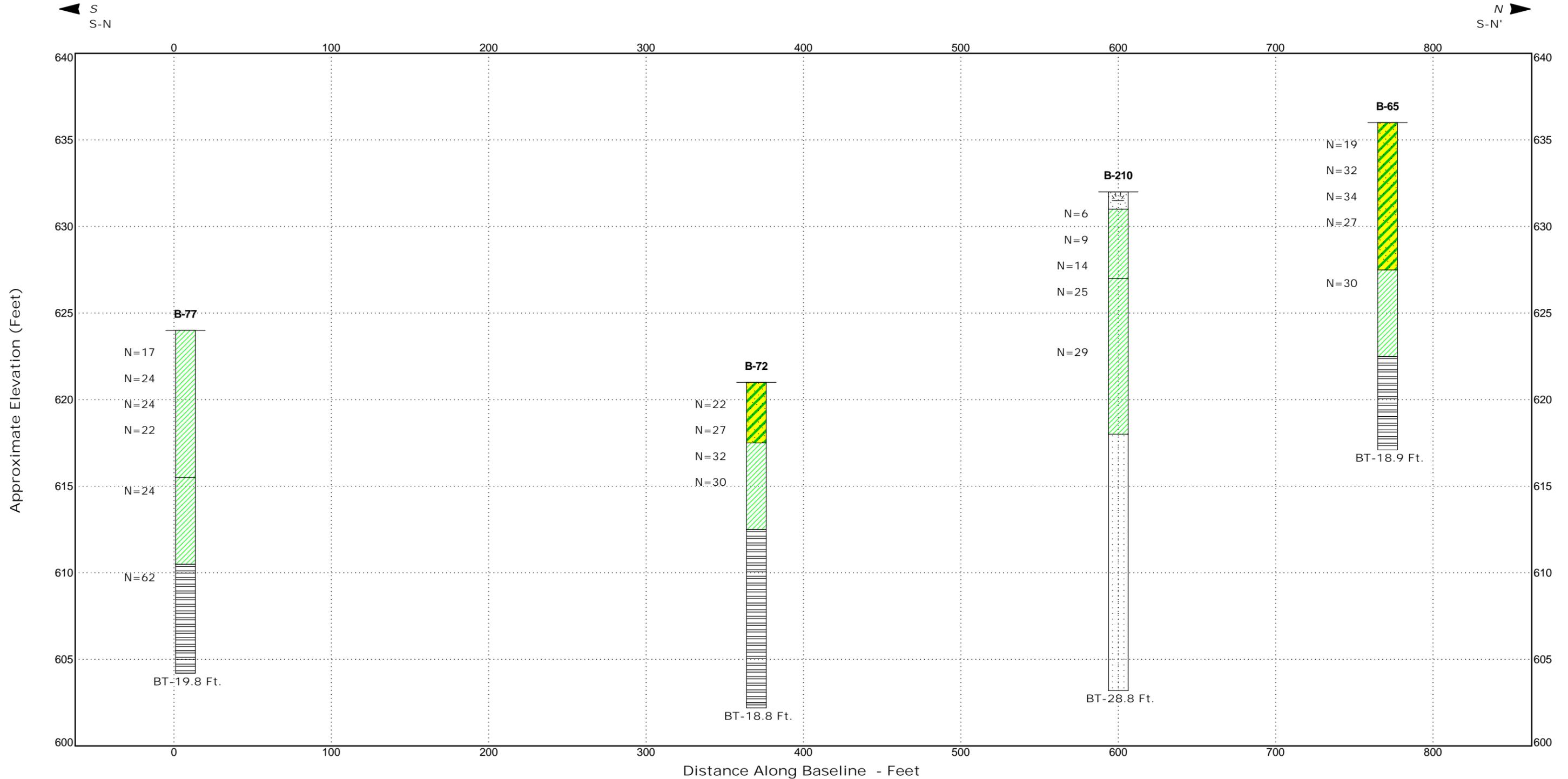
DC1A S-N #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-201 Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes) AR BT</p>	<p>Topsoil Lean Clay Shale Lean Clay with Sand</p>

Subsurface Profile

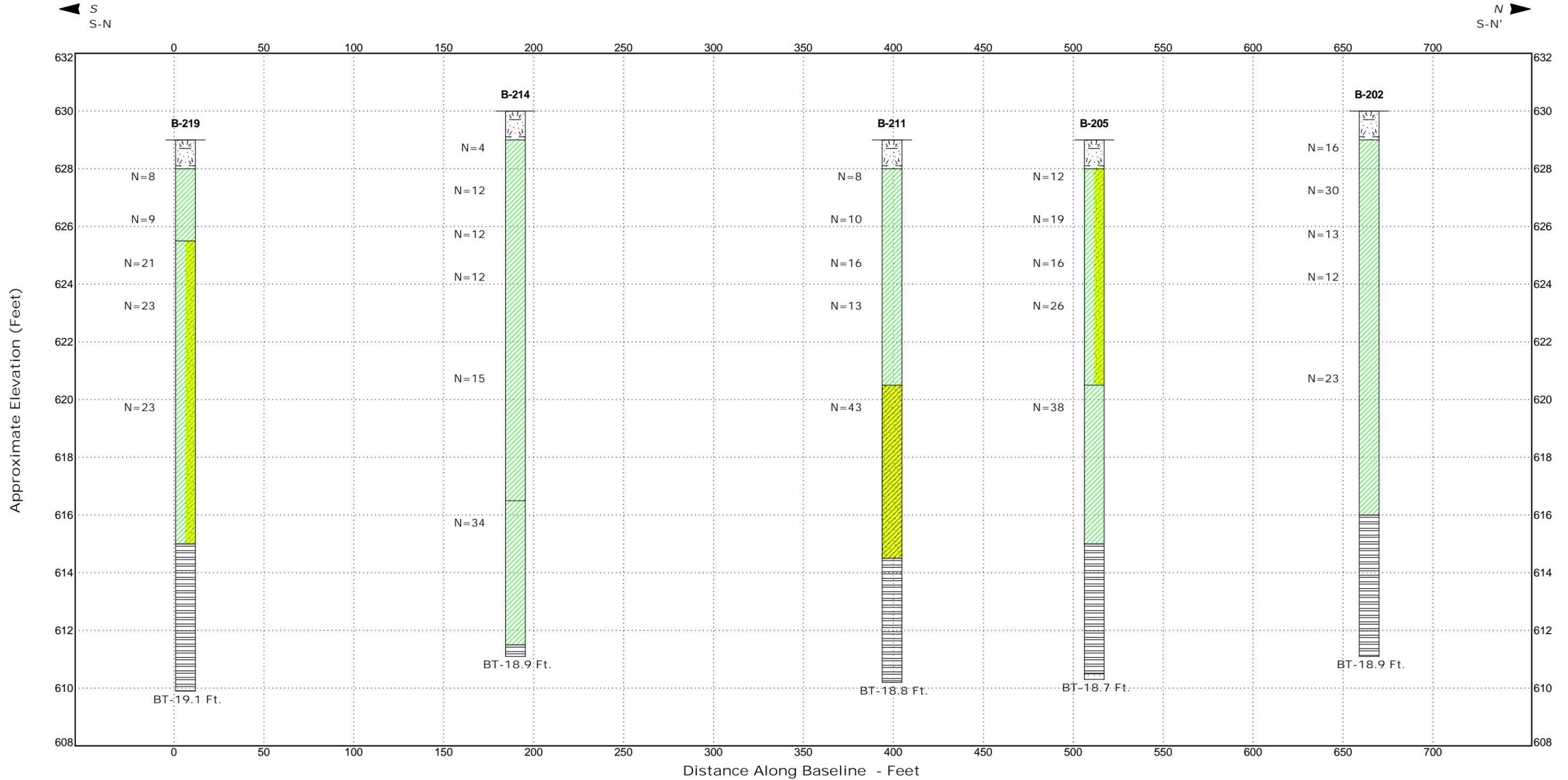
DC1A S-N #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-210 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Sandstone Clayey Sand Shale</p>

Subsurface Profile

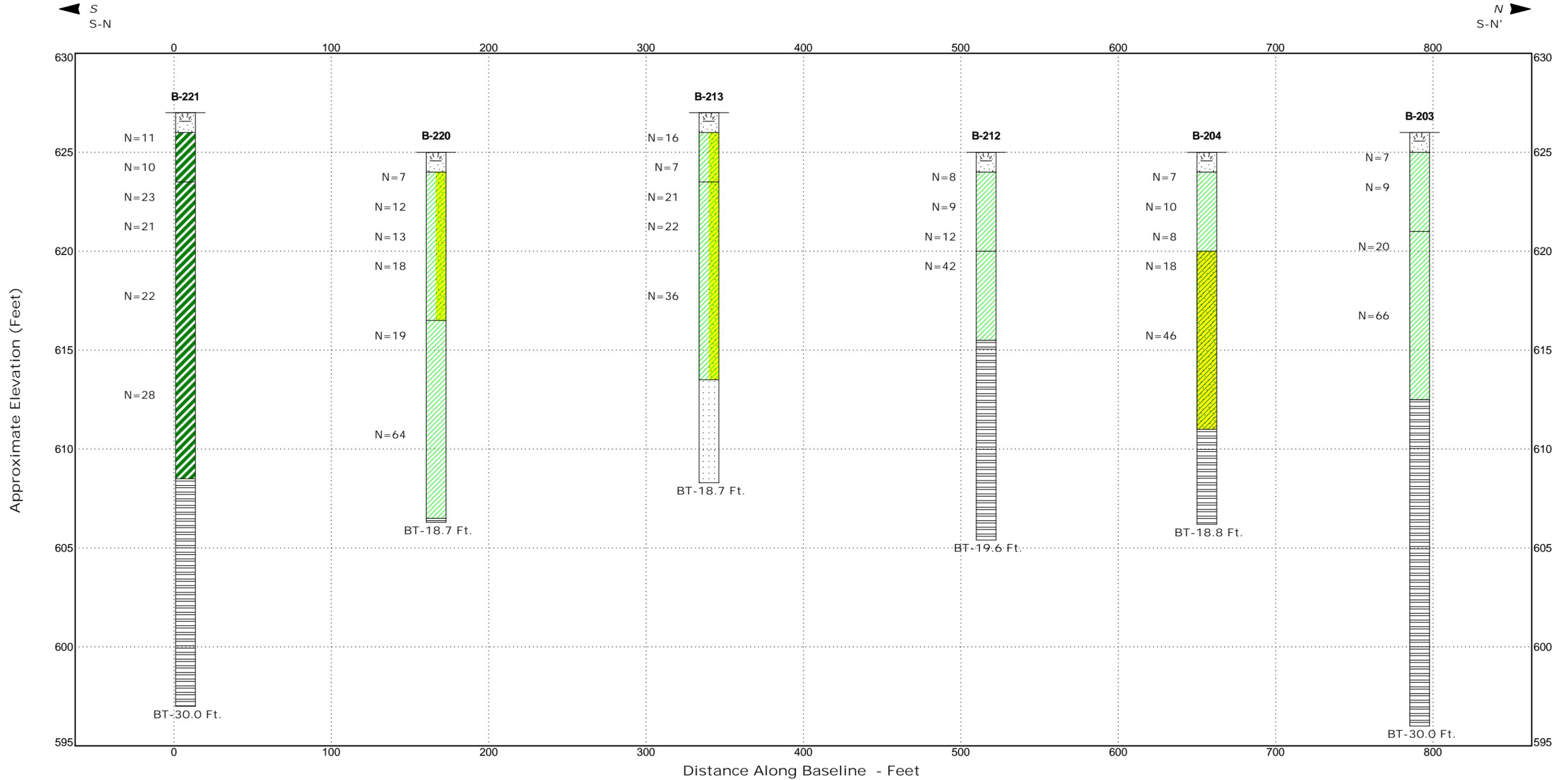
DC1A S-N #5



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-202 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Shale Lean Clay with Sand Sandstone</p> <p>Sandy Lean Clay</p>

Subsurface Profile

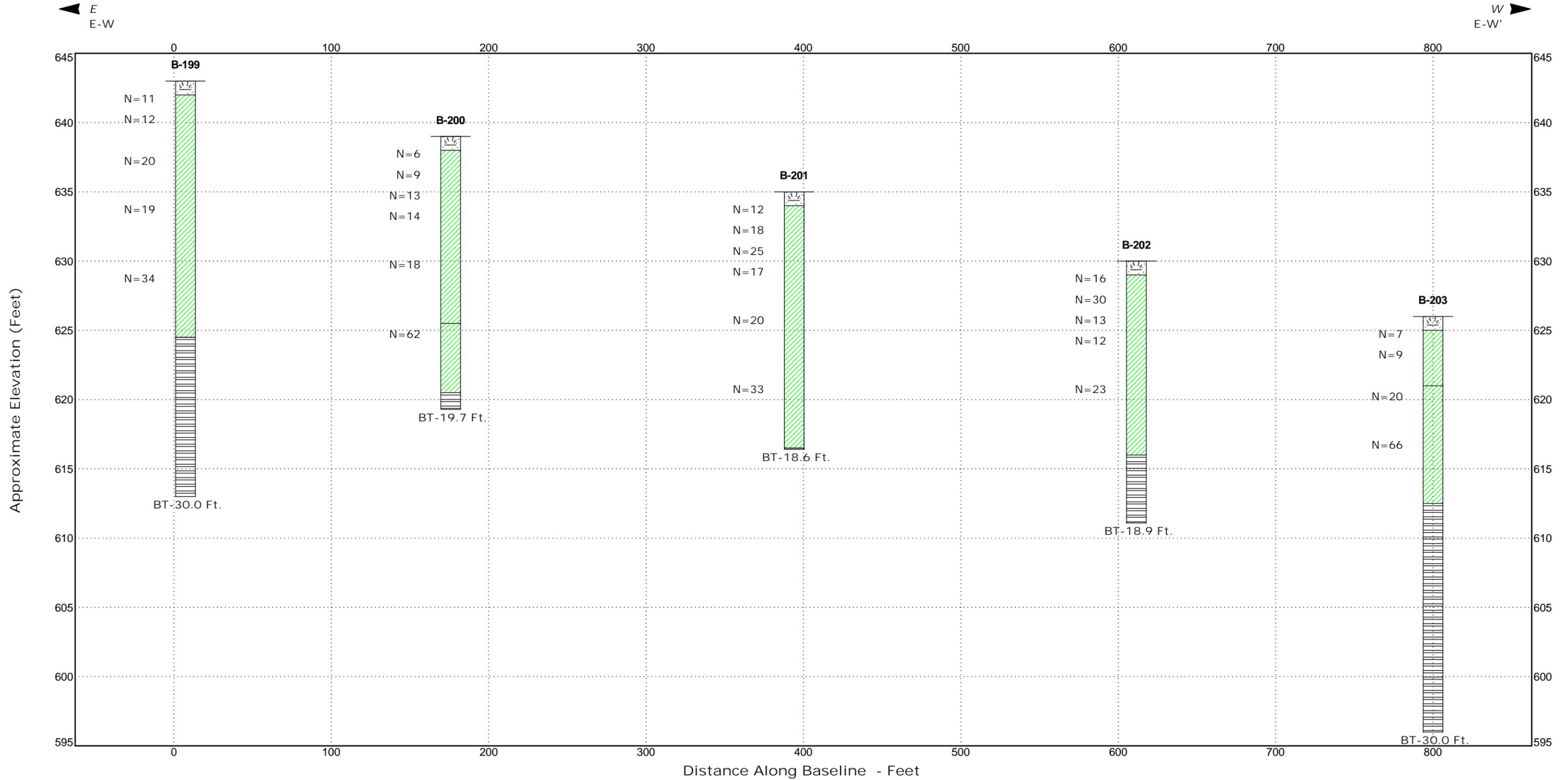
DC1A S-N #6



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-203 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil, Lean Clay, Fat Clay, Shale, Sandstone, Sandy Lean Clay, Lean Clay with Sand</p>

Subsurface Profile

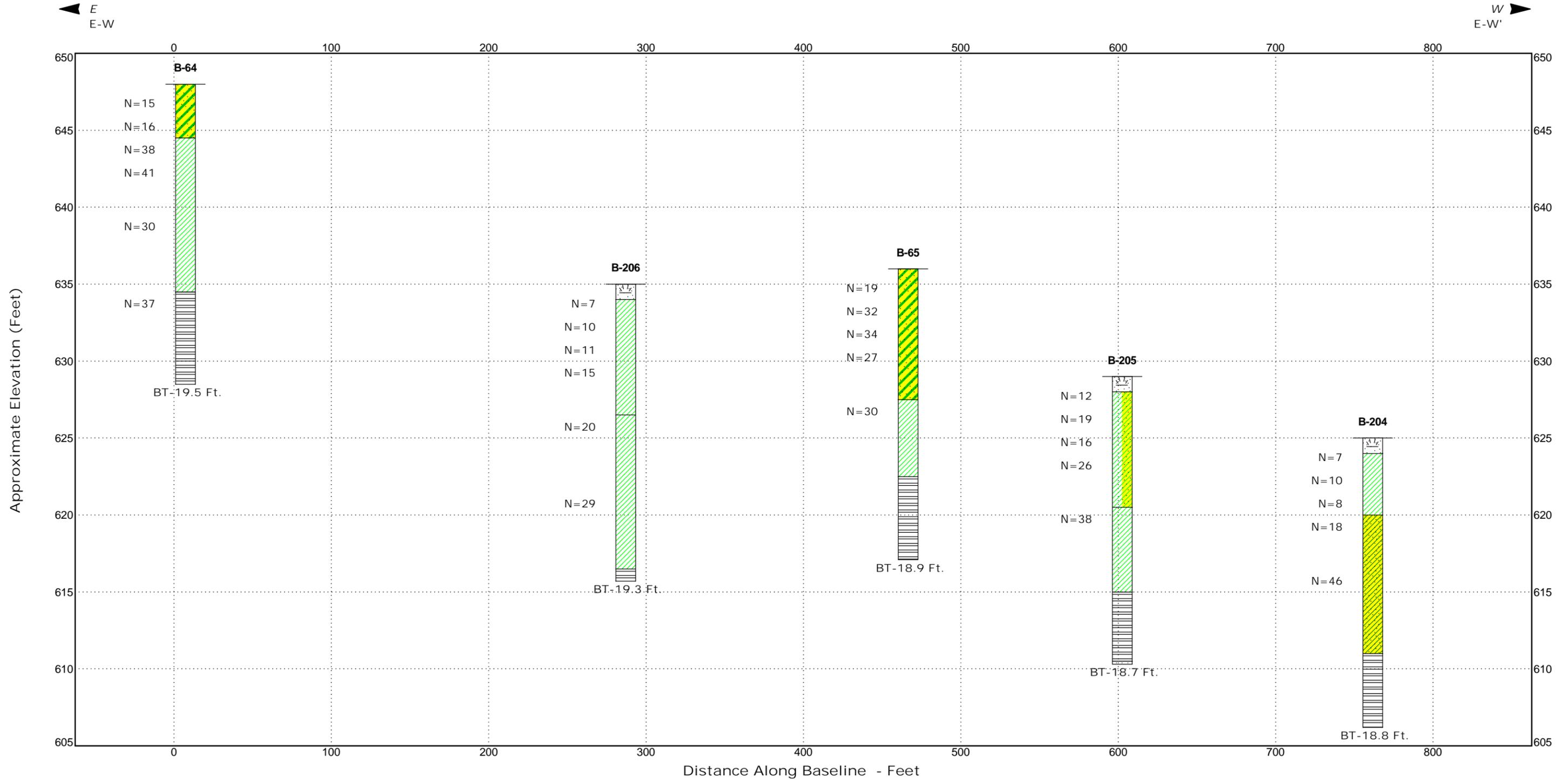
DC1A E-W #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-199 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>■ — Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>Topsoil</p> <p>Lean Clay</p> <p>Shale</p>

Subsurface Profile

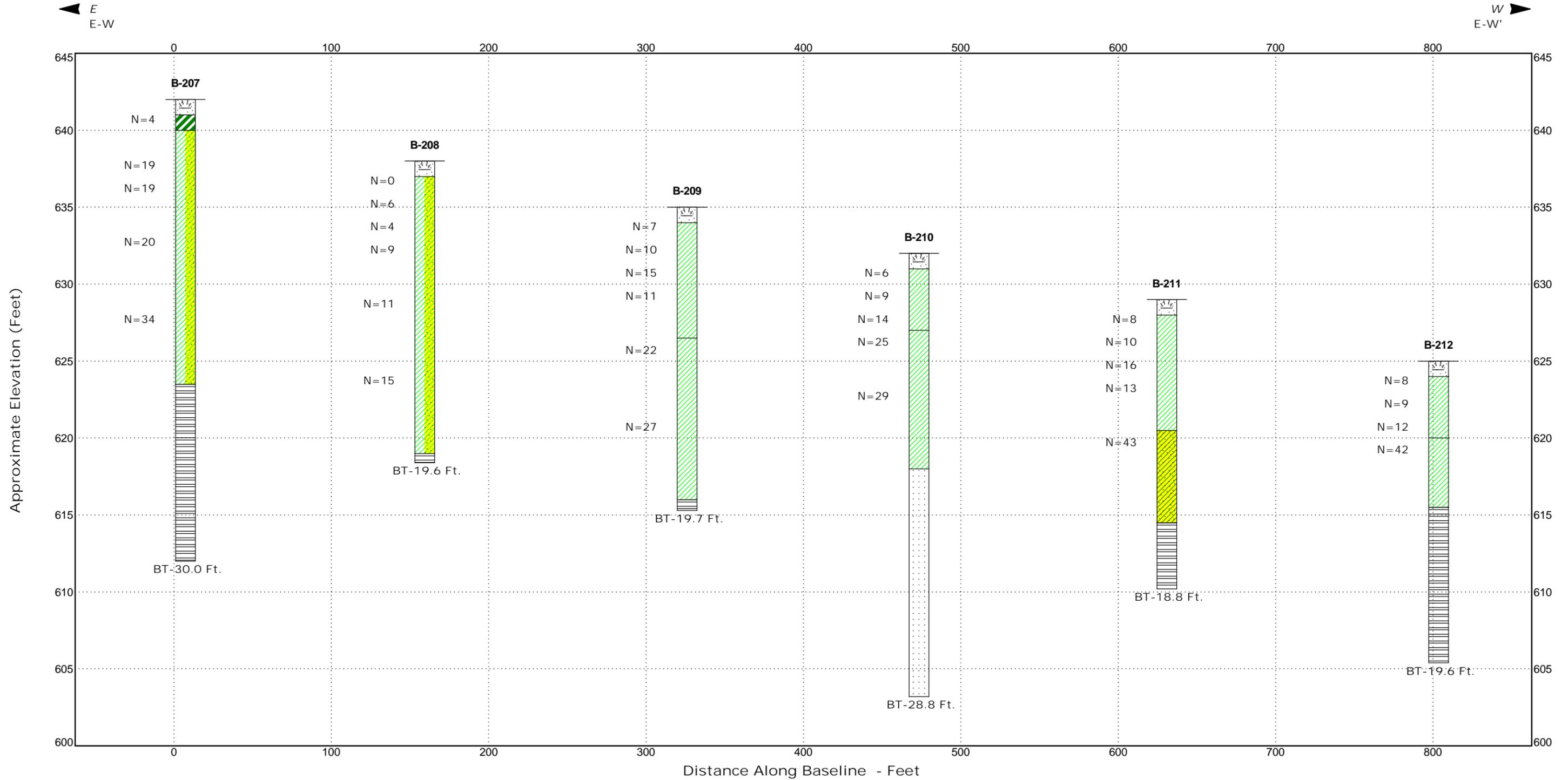
DC1A E-W #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-204 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil, Sandstone, Lean Clay, Clayey Sand, Sandy Lean Clay, Shale, Lean Clay with Sand</p>

Subsurface Profile

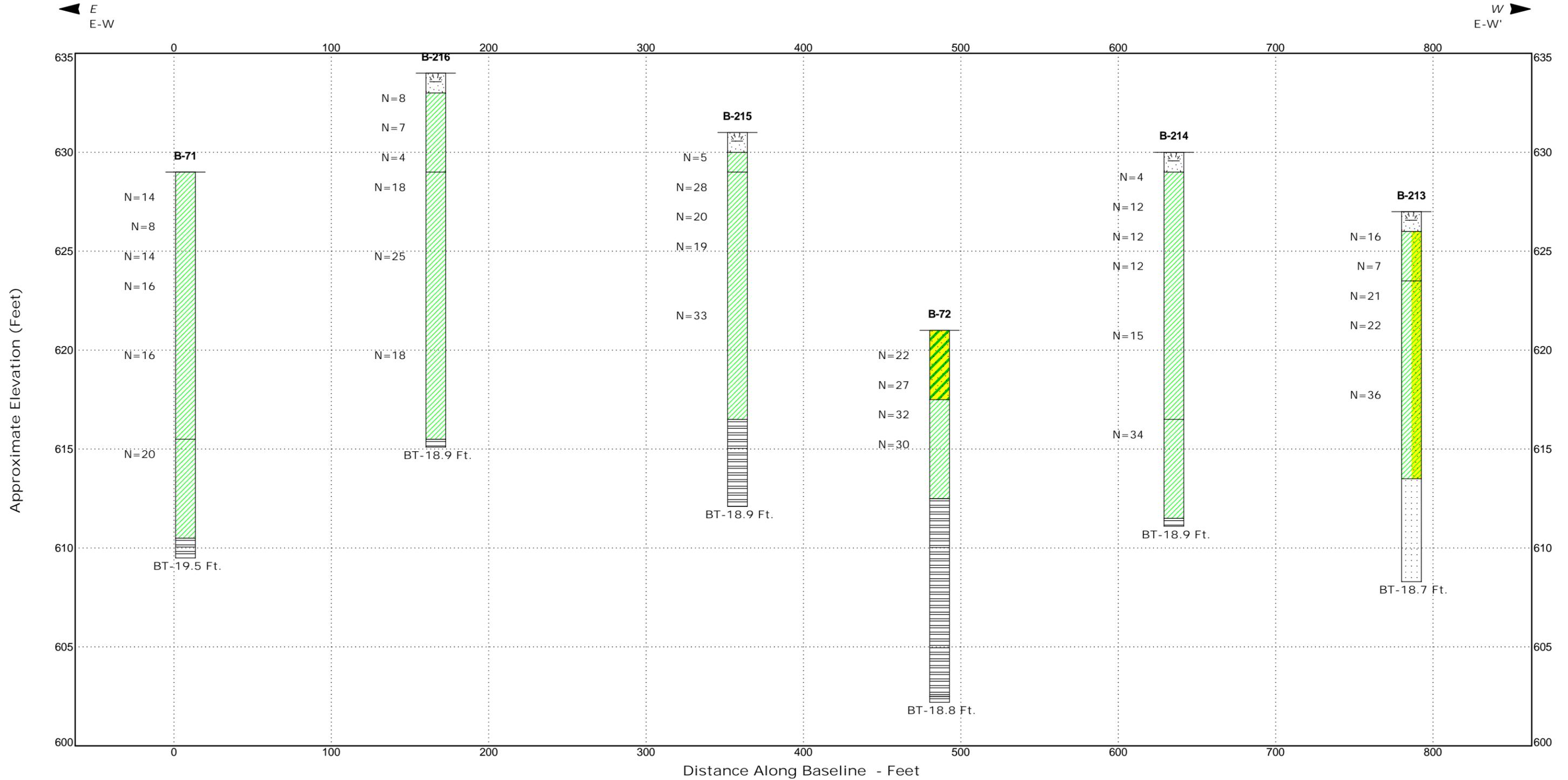
DC1A E-W #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-207 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>▬ — Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>BT — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>Topsoil</p> <p>Sandstone</p> <p>Fat Clay</p> <p>Sandy Lean Clay</p> <p>Lean Clay with Sand</p> <p>Shale</p> <p>Lean Clay</p>

Subsurface Profile

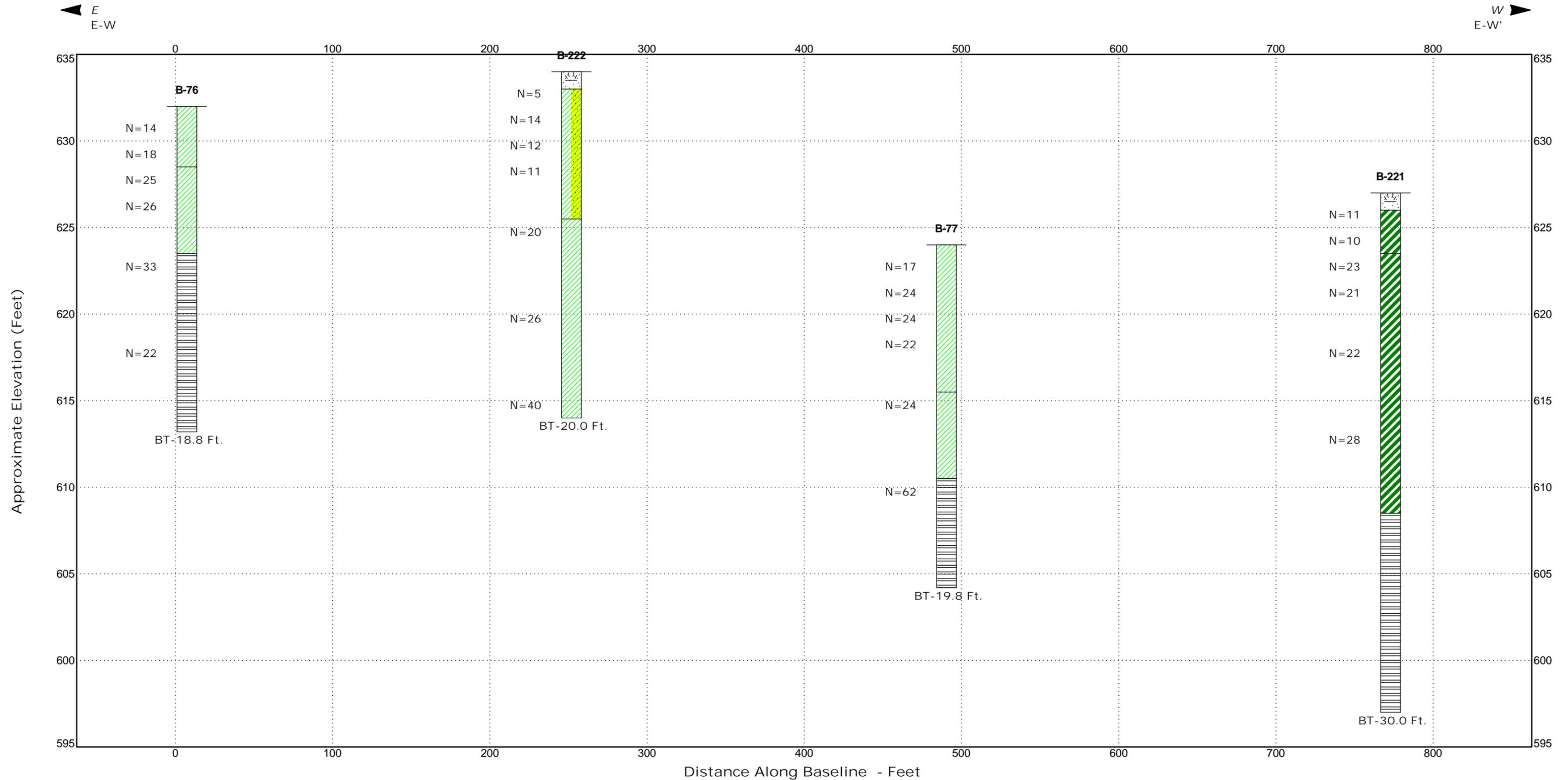
DC1A E-W #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p> Water Level Reading at time of drilling. Water Level Reading after drilling. </p>	<p> Borehole Number LL PL — Liquid and Plastic Limits Borehole Lithology Borehole Termination Type Moisture Content — %w Sampling (See General Notes) </p>	<p> Topsoil Lean Clay with Sand Sandstone Lean Clay Shale Clayey Sand </p>

Subsurface Profile

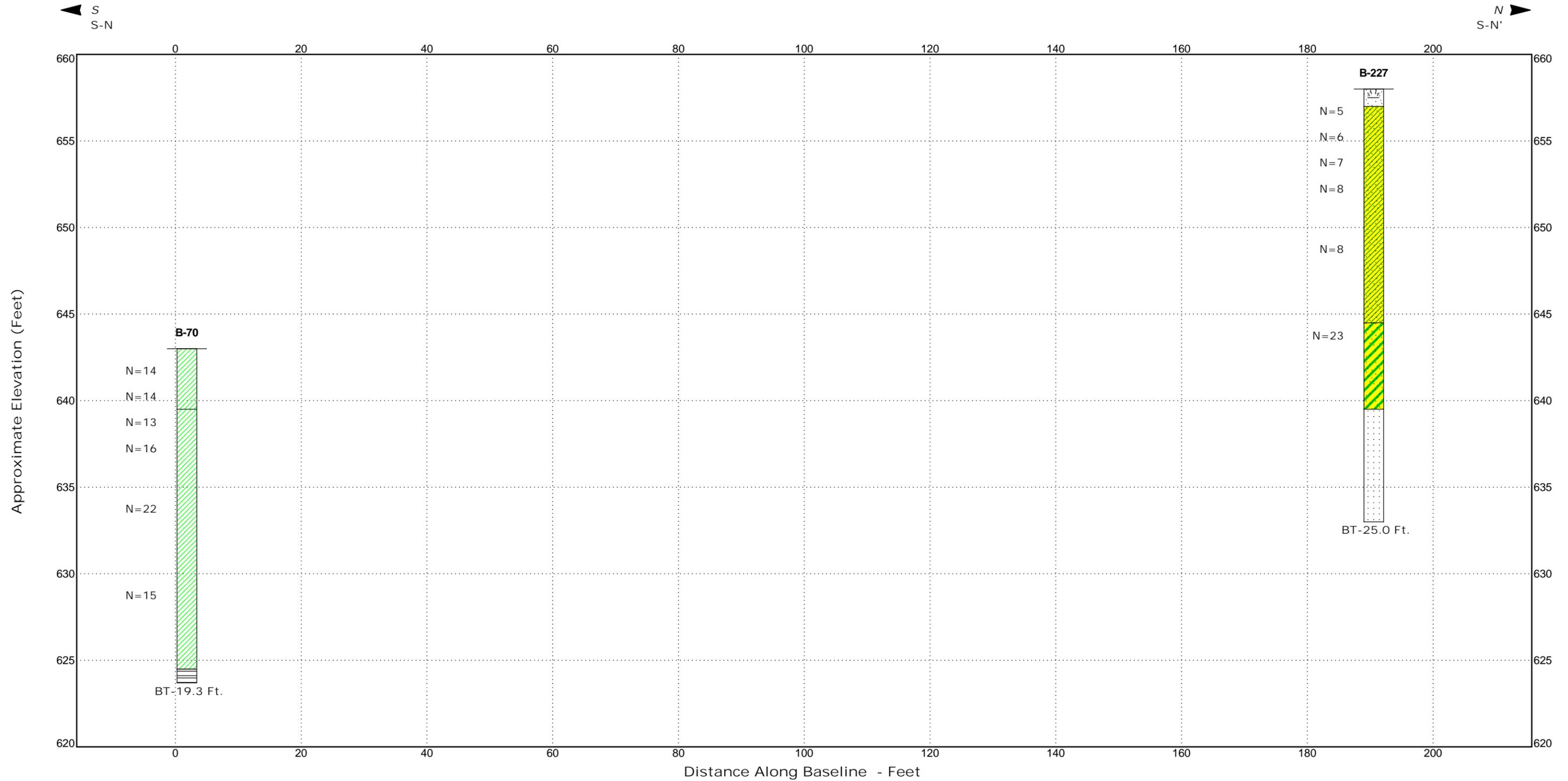
DC1A E-W #6



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-221 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Fat Clay Shale Lean Clay with Sand Lean Clay</p>

Subsurface Profile

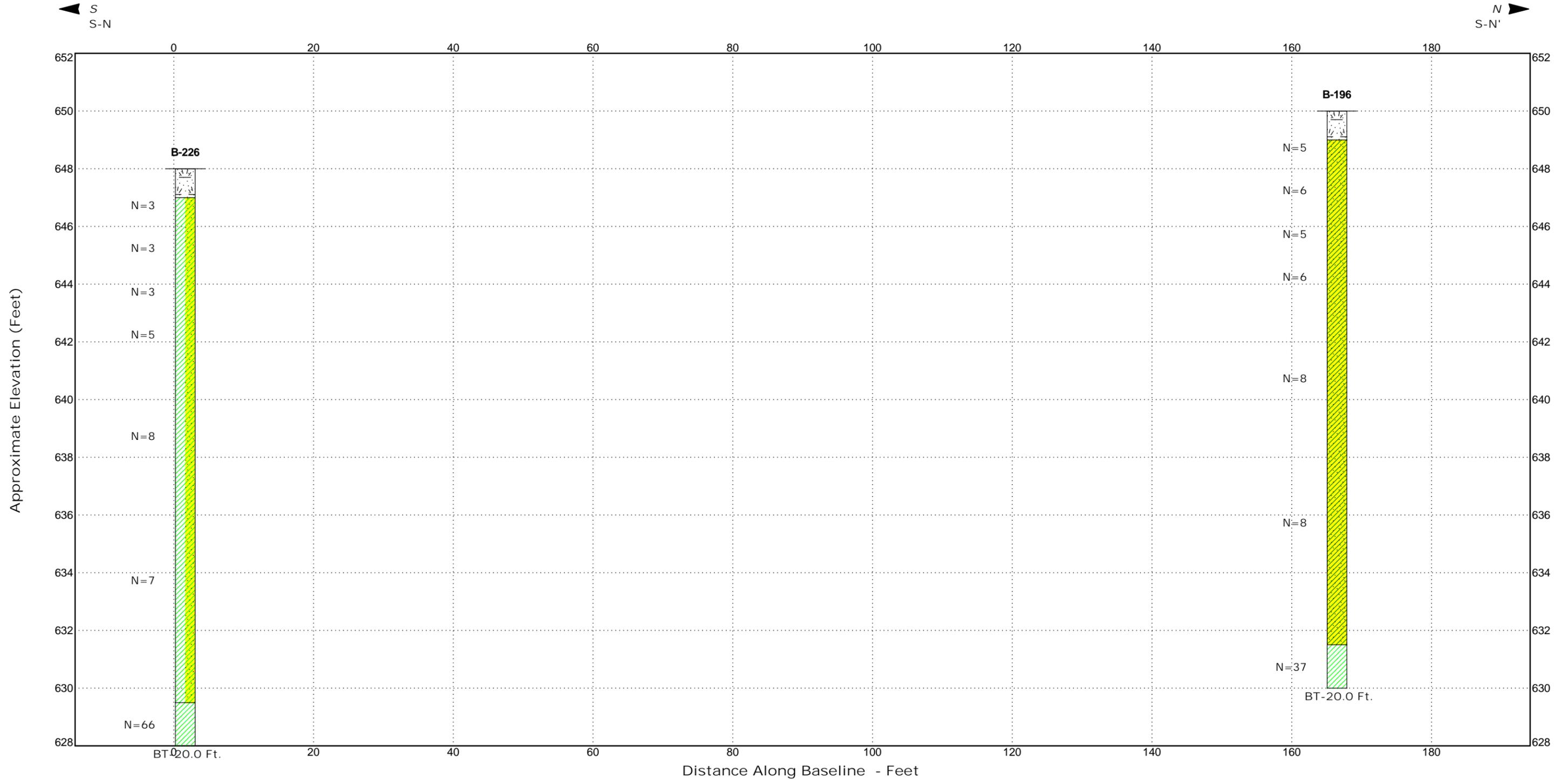
South HUB S-N #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-227 Borehole Number LL PL Liquid and Plastic Limits Sampling (See General Notes) AR Borehole Lithology BT Borehole Termination Type</p>	<p>Topsoil Shale Sandy Lean Clay Clayey Sand Sandstone Lean Clay</p>

Subsurface Profile

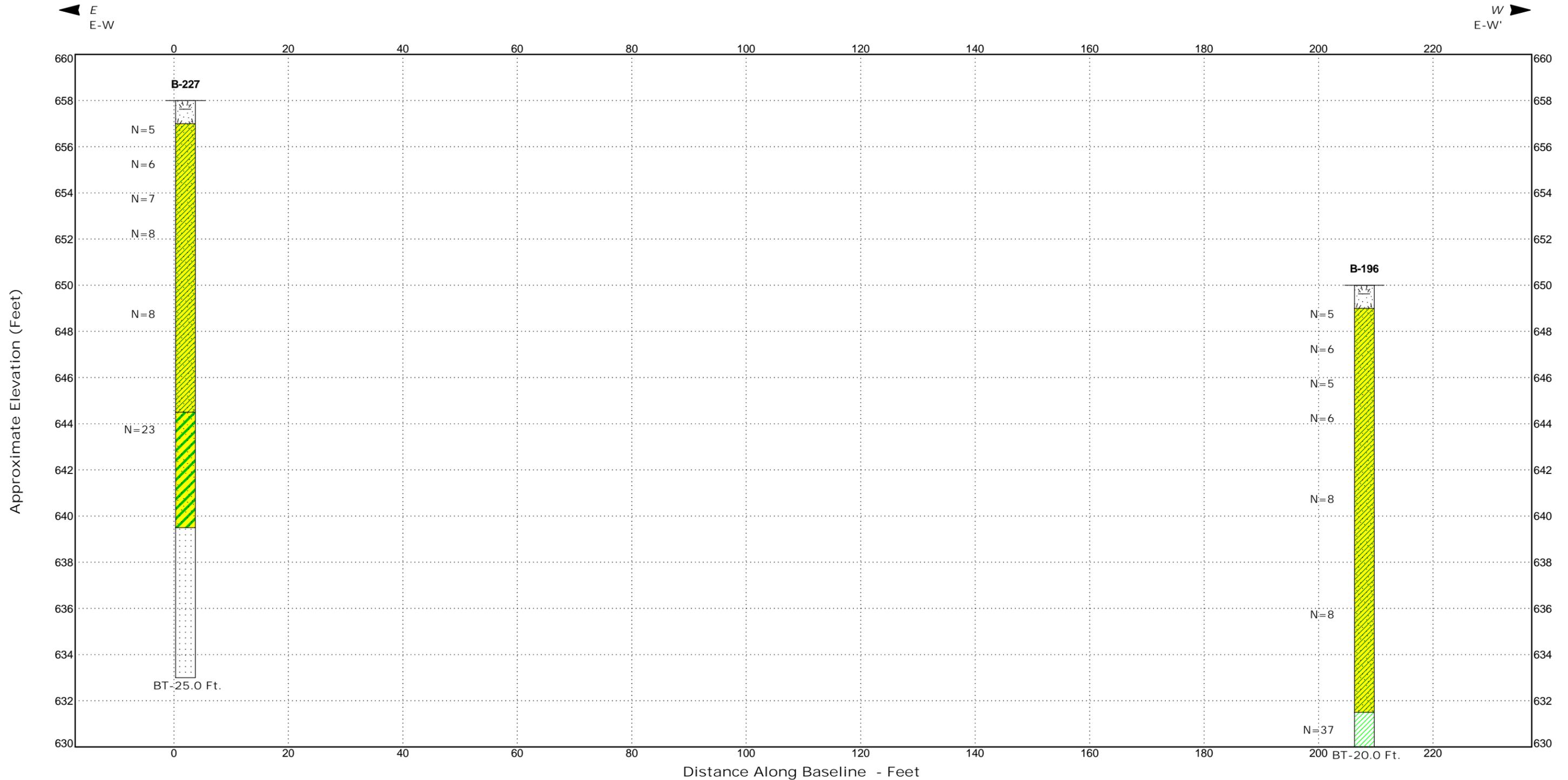
South HUB S-N #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-196 Borehole Number</p> <p>Moisture Content — %w</p> <p>Sampling (See General Notes)</p> <p>AR — Auger Refusal</p> <p>BT — Boring Termination</p> <p>LL PL — Liquid and Plastic Limits</p> <p>— Borehole Lithology</p> <p>— Borehole Termination Type</p>	<p>Topsoil</p> <p>Sandy Lean Clay</p> <p>Lean Clay</p> <p>Lean Clay with Sand</p>

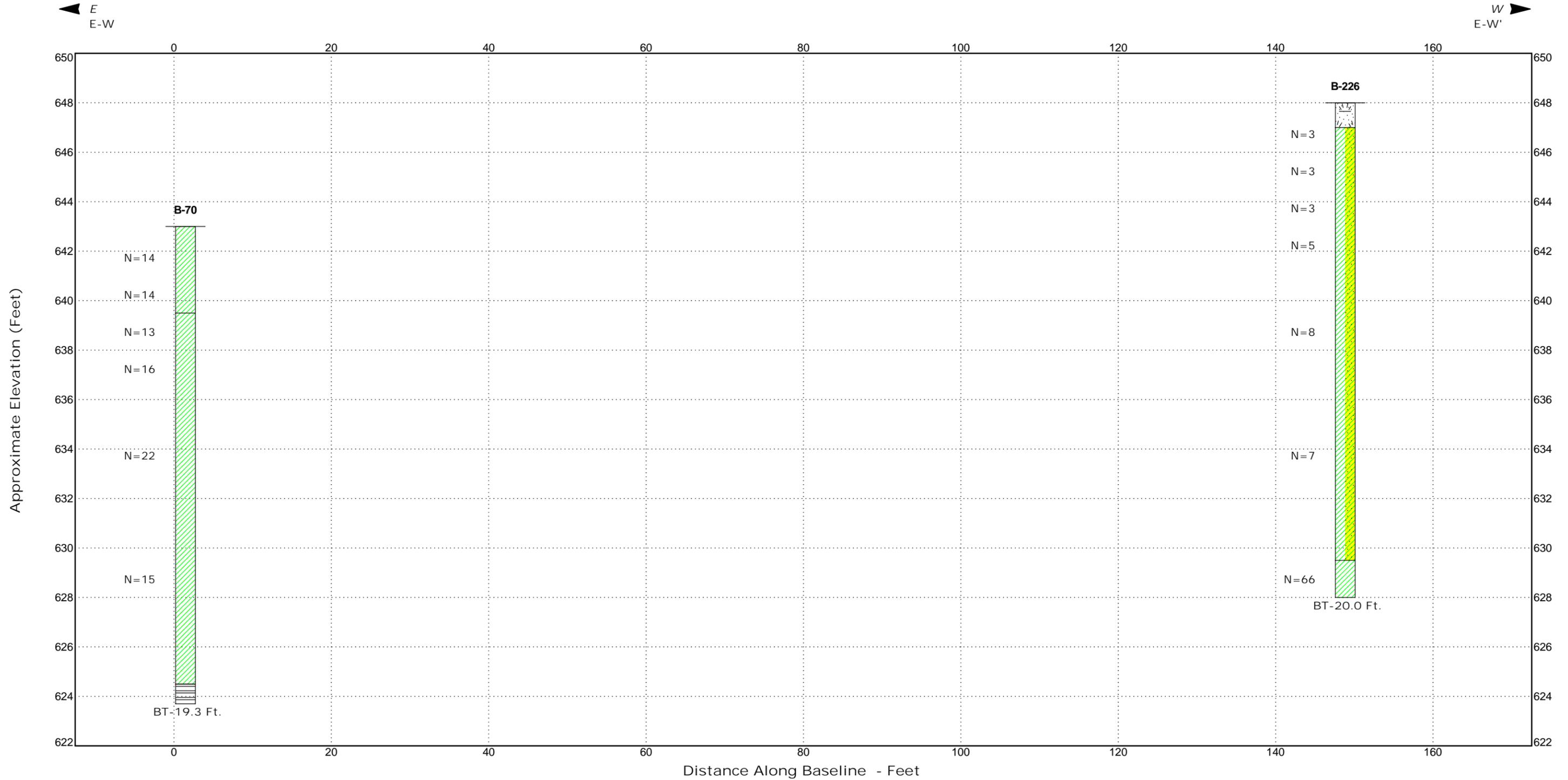
Subsurface Profile

South HUB E-W #1



Subsurface Profile

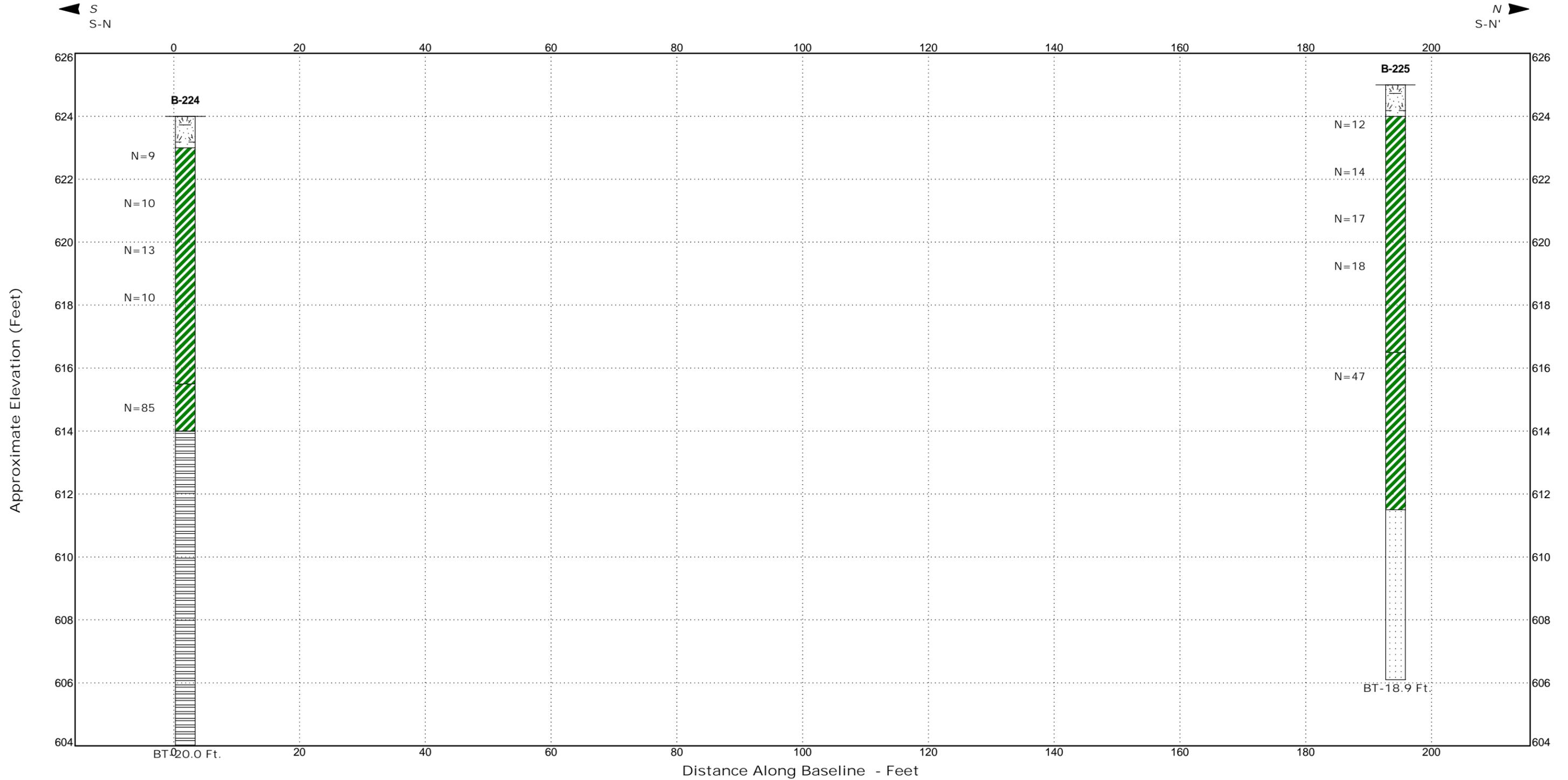
South HUB E-W #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-226 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Lean Clay Shale</p>

Subsurface Profile

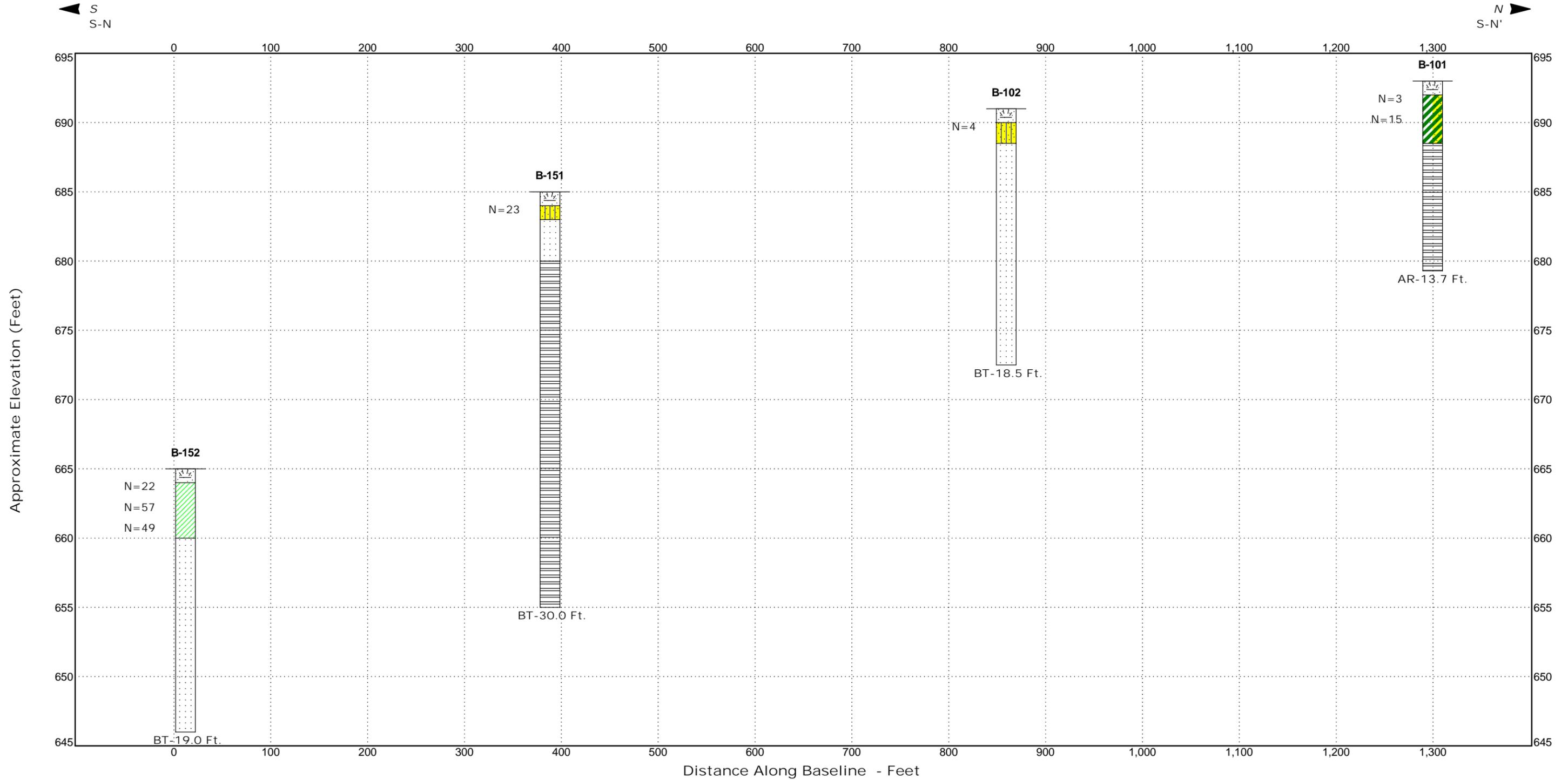
Temporary Substation



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-224 Borehole Number</p> <p>Moisture Content — %w</p> <p>Sampling (See General Notes)</p> <p>LL PL — Liquid and Plastic Limits</p> <p>AR BT Borehole Termination Type</p>	<p>Topsoil</p> <p>Fat Clay</p> <p>Shale</p> <p>Sandstone</p>

Subsurface Profile

Phase 3 Spine Road



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-101 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Fat Clay with Sand Silty Sand Shale Sandstone</p>

Phase 2 Fence Lines

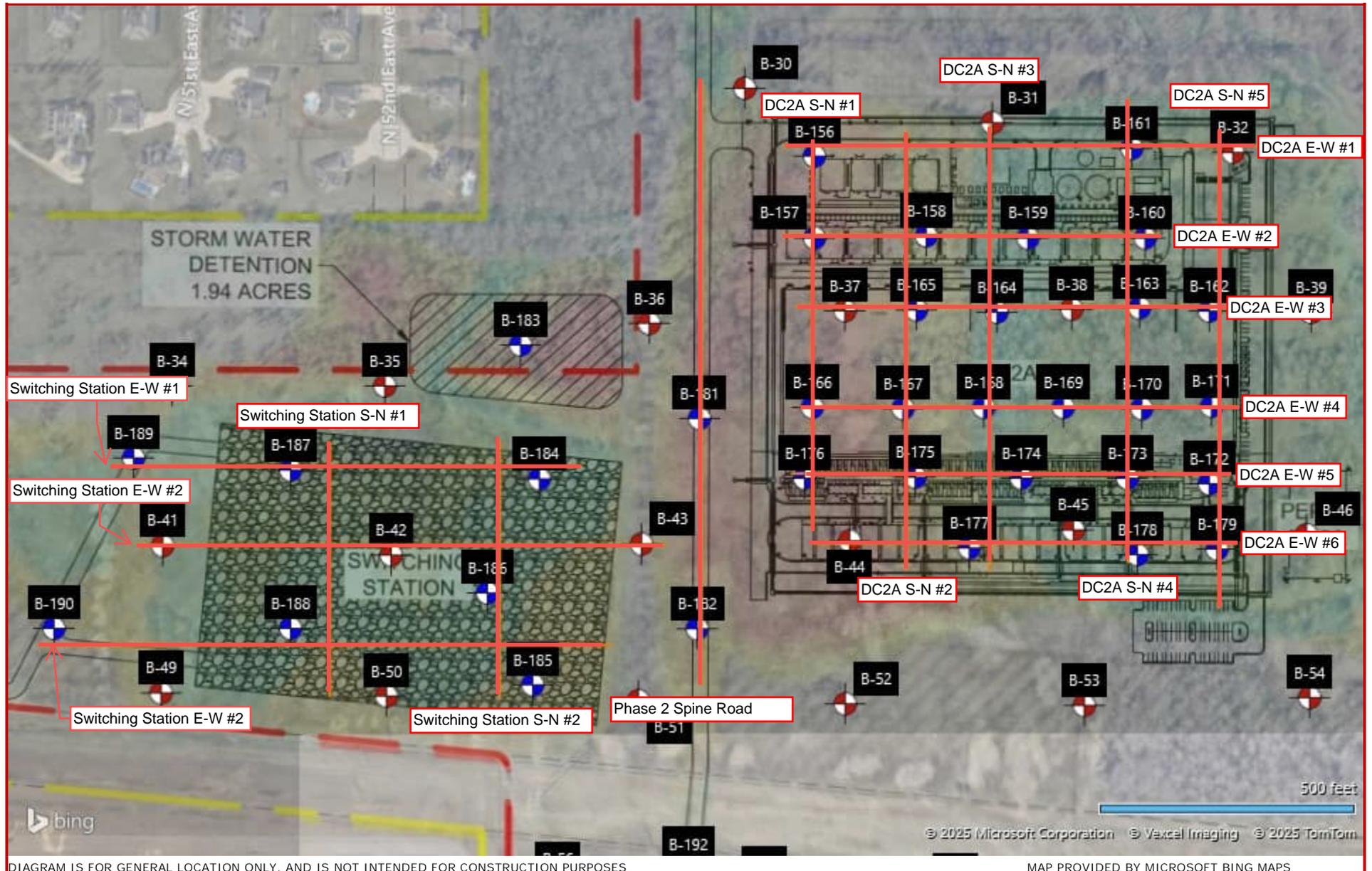
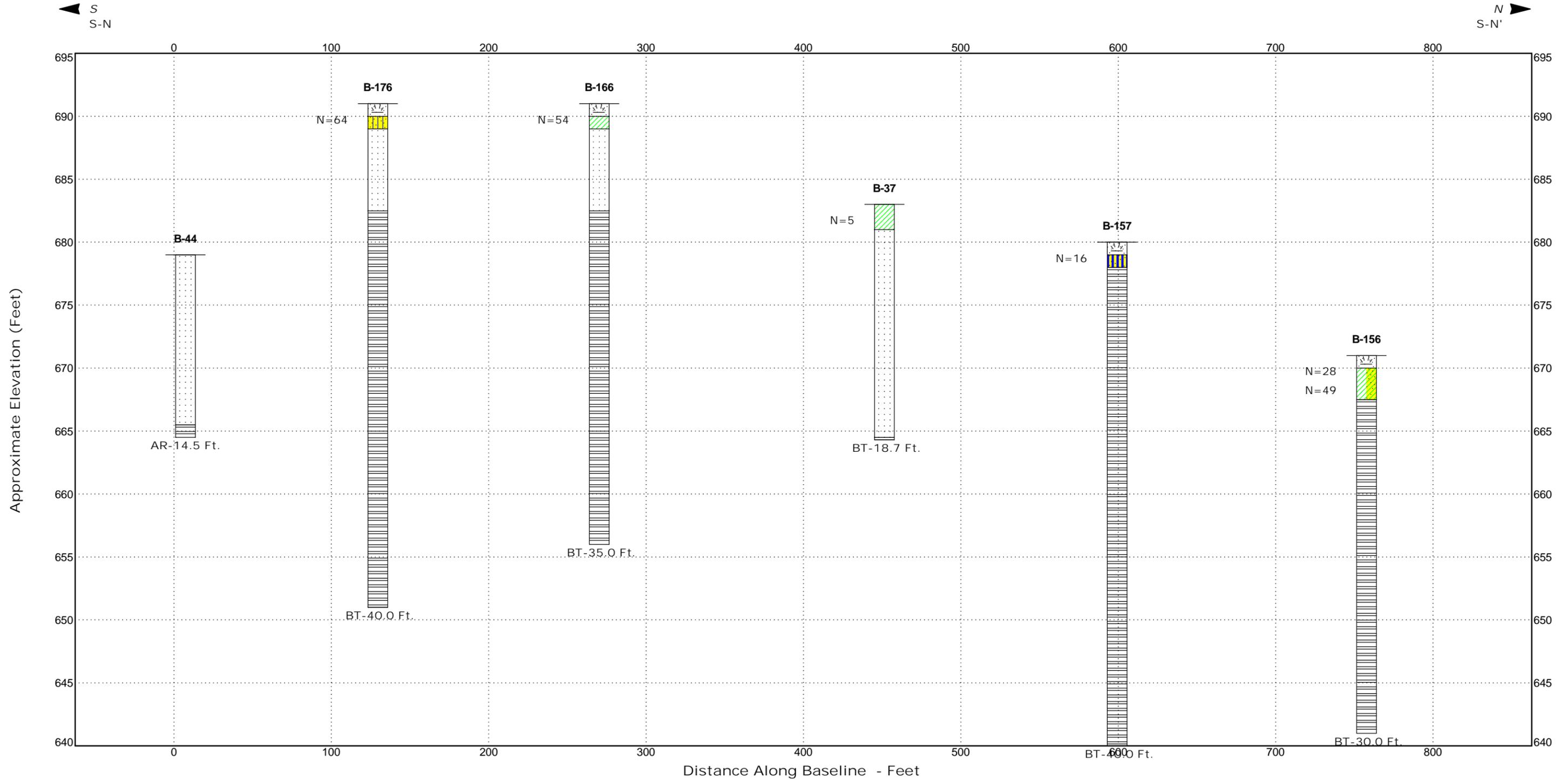


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Subsurface Profile

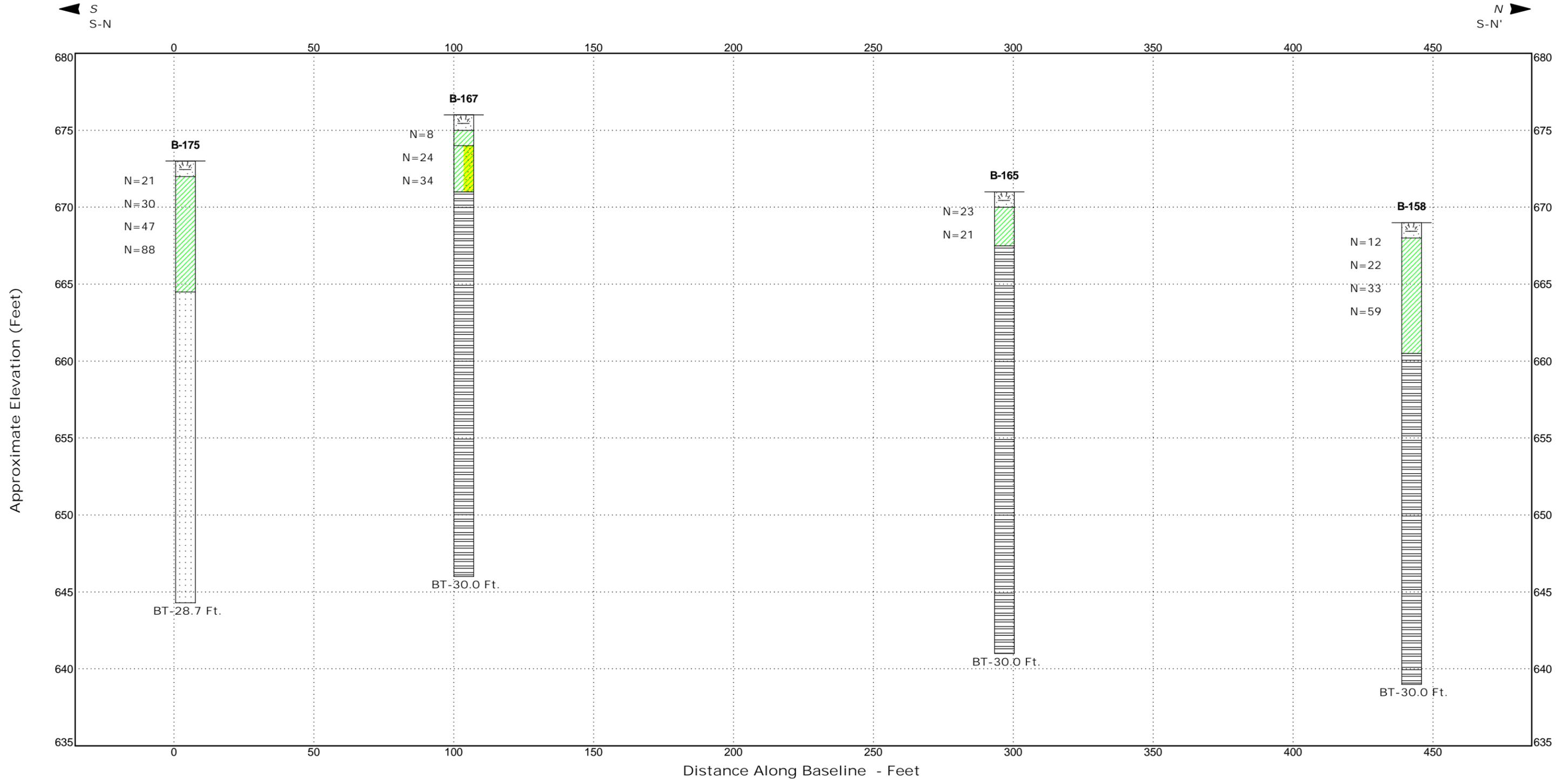
DC2A S-N #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-156 Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology AR BT Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil, Sandstone, Lean Clay with Sand, Silty Sand, Shale, Sandy Silt, Lean Clay</p>

Subsurface Profile

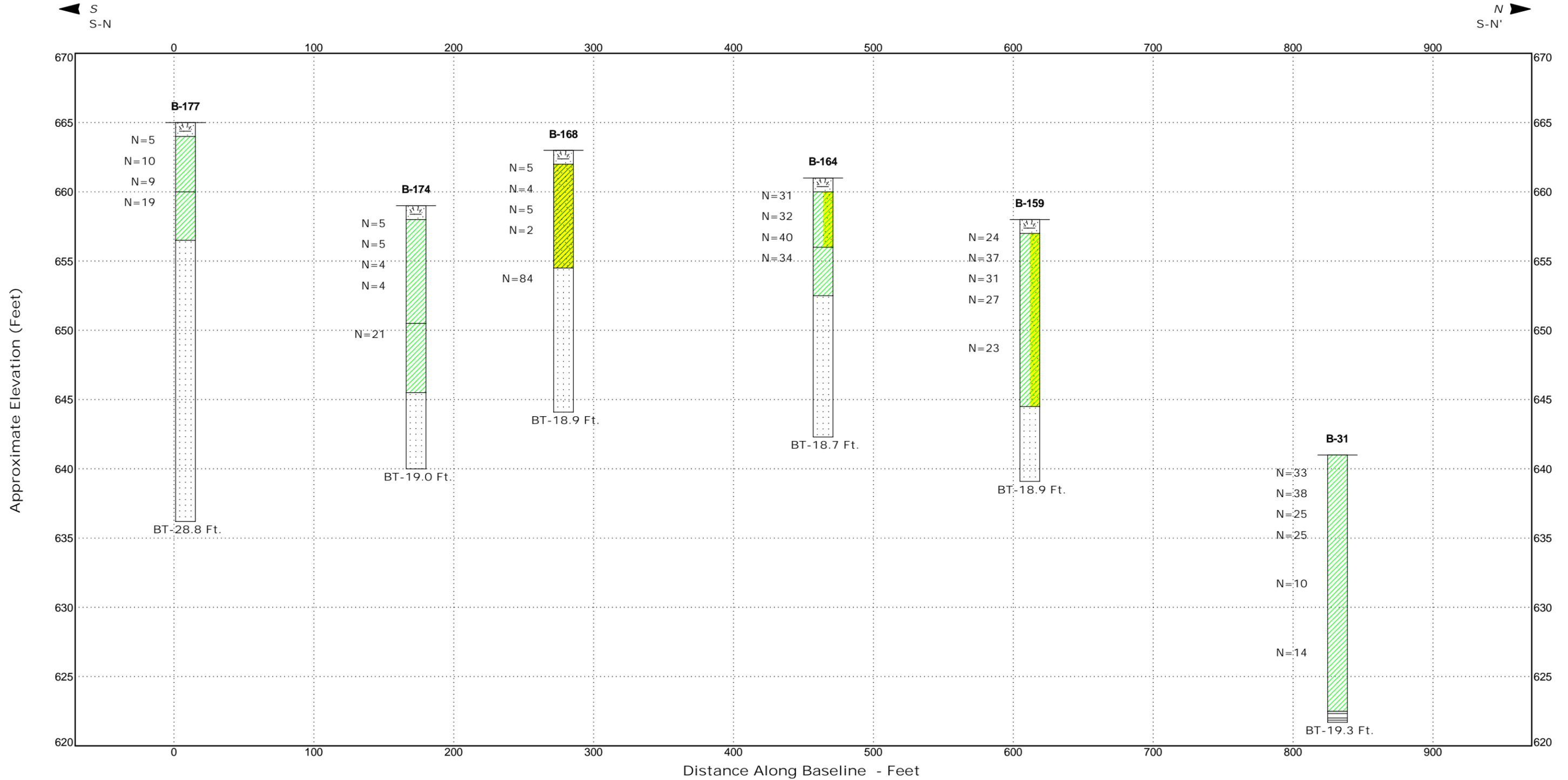
DC2A S-N #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-158 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>— — Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>☒ Topsoil</p> <p>▨ Lean Clay</p> <p>▤ Shale</p> <p>▧ Lean Clay with Sand</p> <p>▩ Sandstone</p>

Subsurface Profile

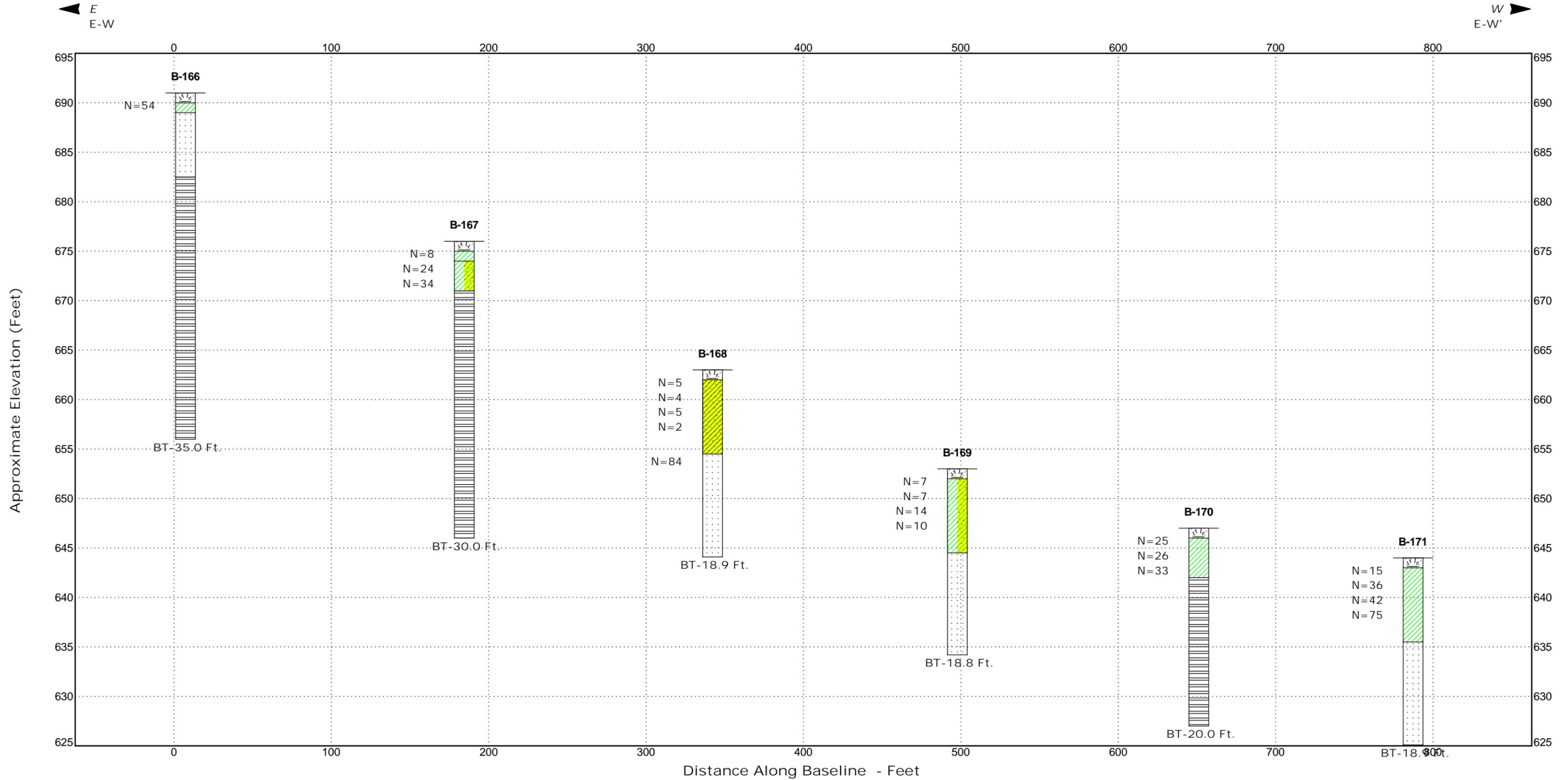
DC2A S-N #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p> Water Level Reading at time of drilling.</p> <p> Water Level Reading after drilling.</p>	<p> Borehole Number</p> <p> LL PL — Liquid and Plastic Limits</p> <p> Borehole Lithology</p> <p> Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling (See General Notes)</p> <p>AR BT</p>	<p> Topsoil</p> <p> Shale</p> <p> Lean Clay with Sand</p> <p> Sandstone</p> <p> Lean Clay</p> <p> Sandy Lean Clay</p>

Subsurface Profile

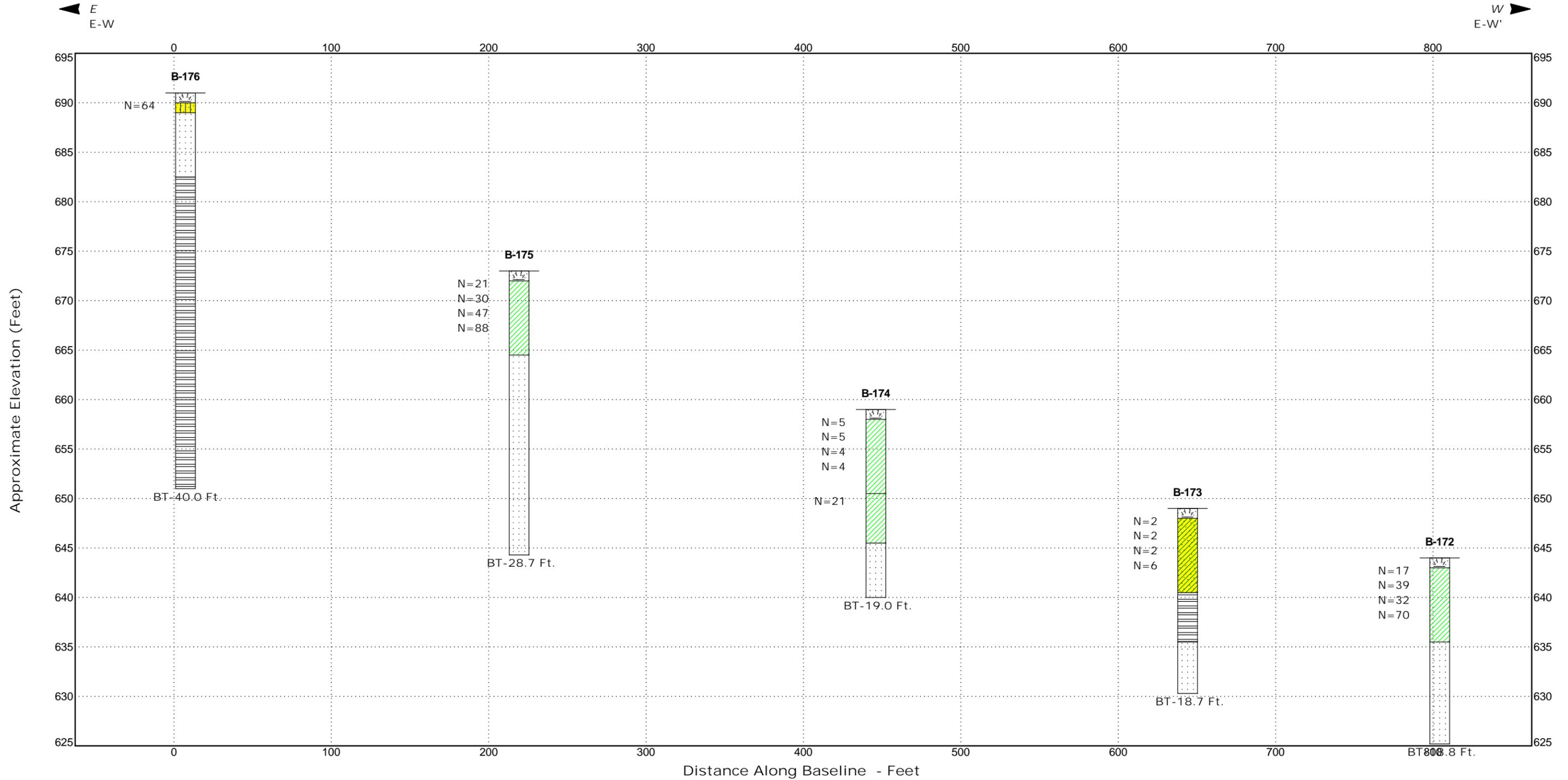
DC2A E-W #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-166 Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology Borehole Termination Type AR Auger Refusal BT Boring Termination</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Sandstone Shale Lean Clay with Sand Sandy Lean Clay</p>

Subsurface Profile

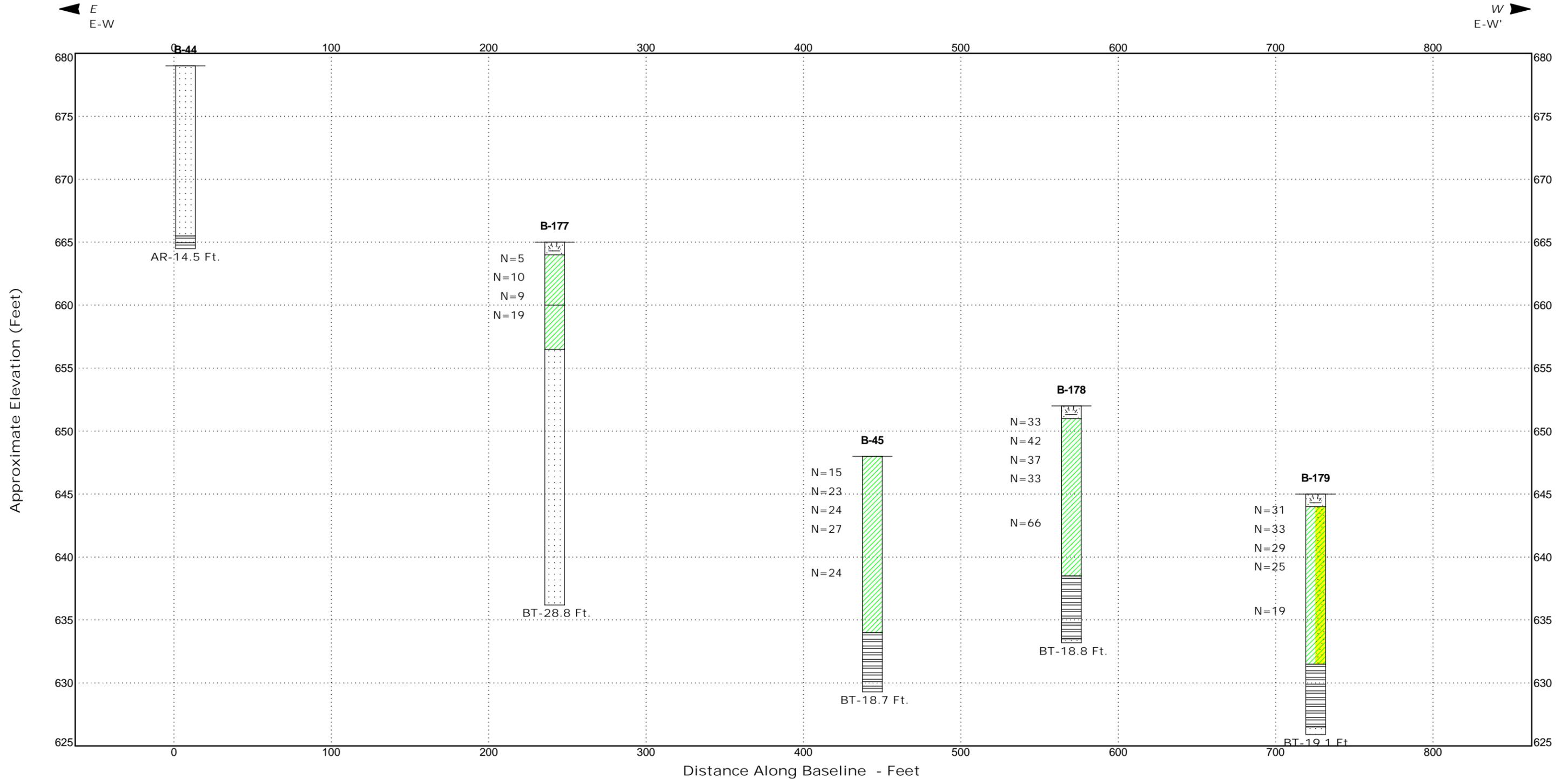
DC2A E-W #5



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-172 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Silty Sand Lean Clay Sandstone Sandy Lean Clay Shale</p>

Subsurface Profile

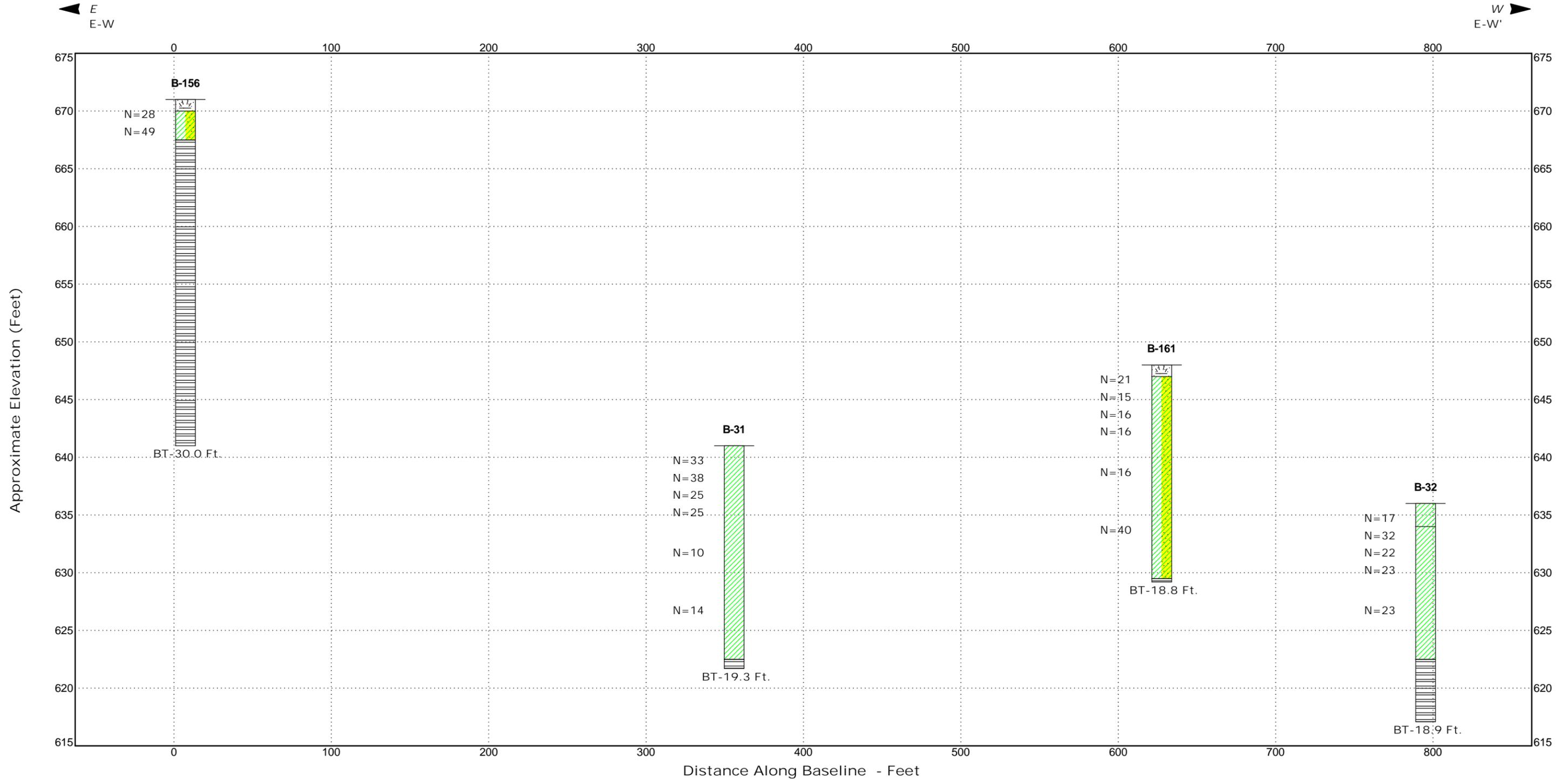
DC2A E-W #6



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-177 Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology AR BT Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Sandstone Shale Lean Clay with Sand</p>

Subsurface Profile

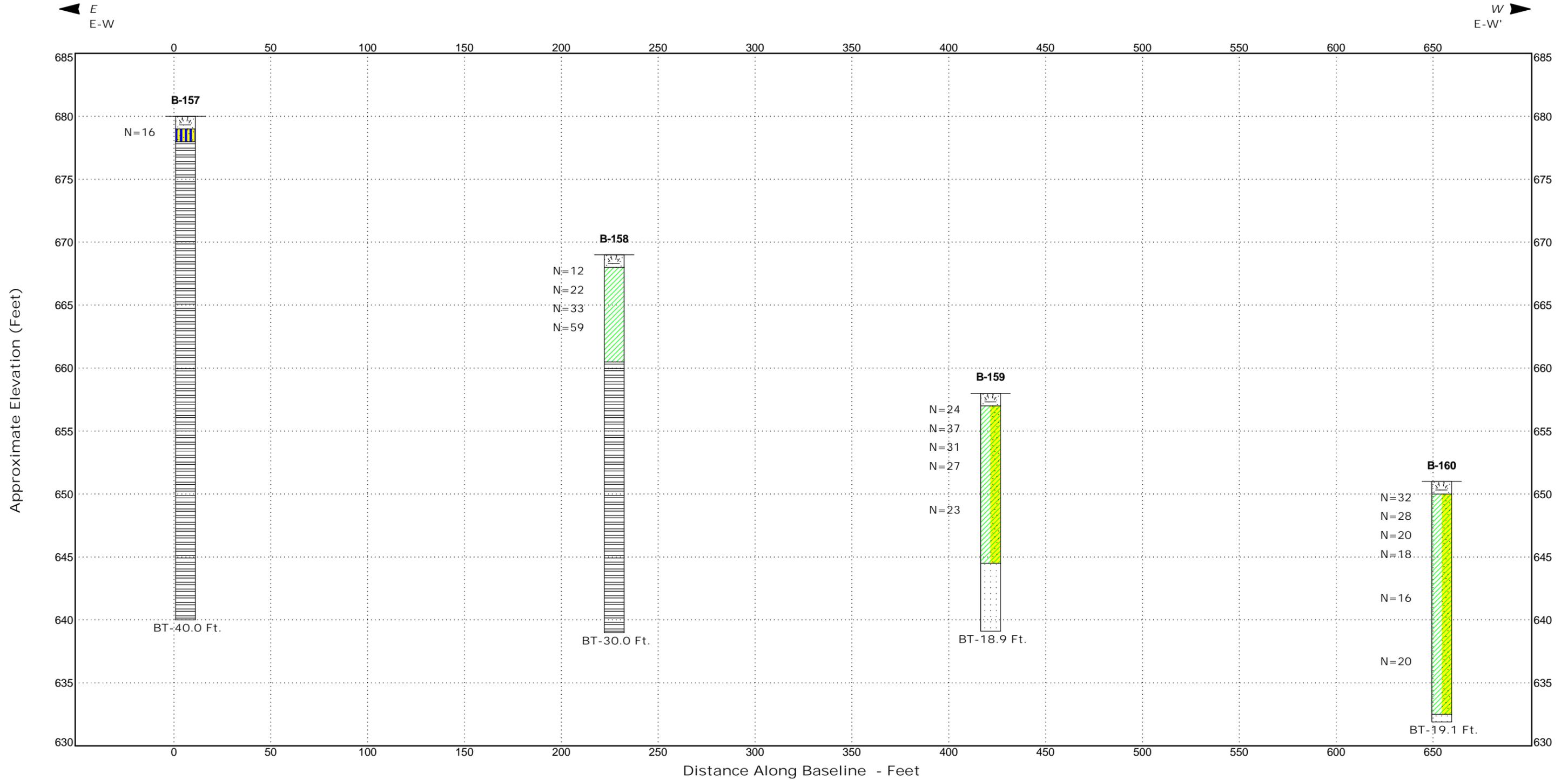
DC2A E-W #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-156 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Shale Lean Clay</p>

Subsurface Profile

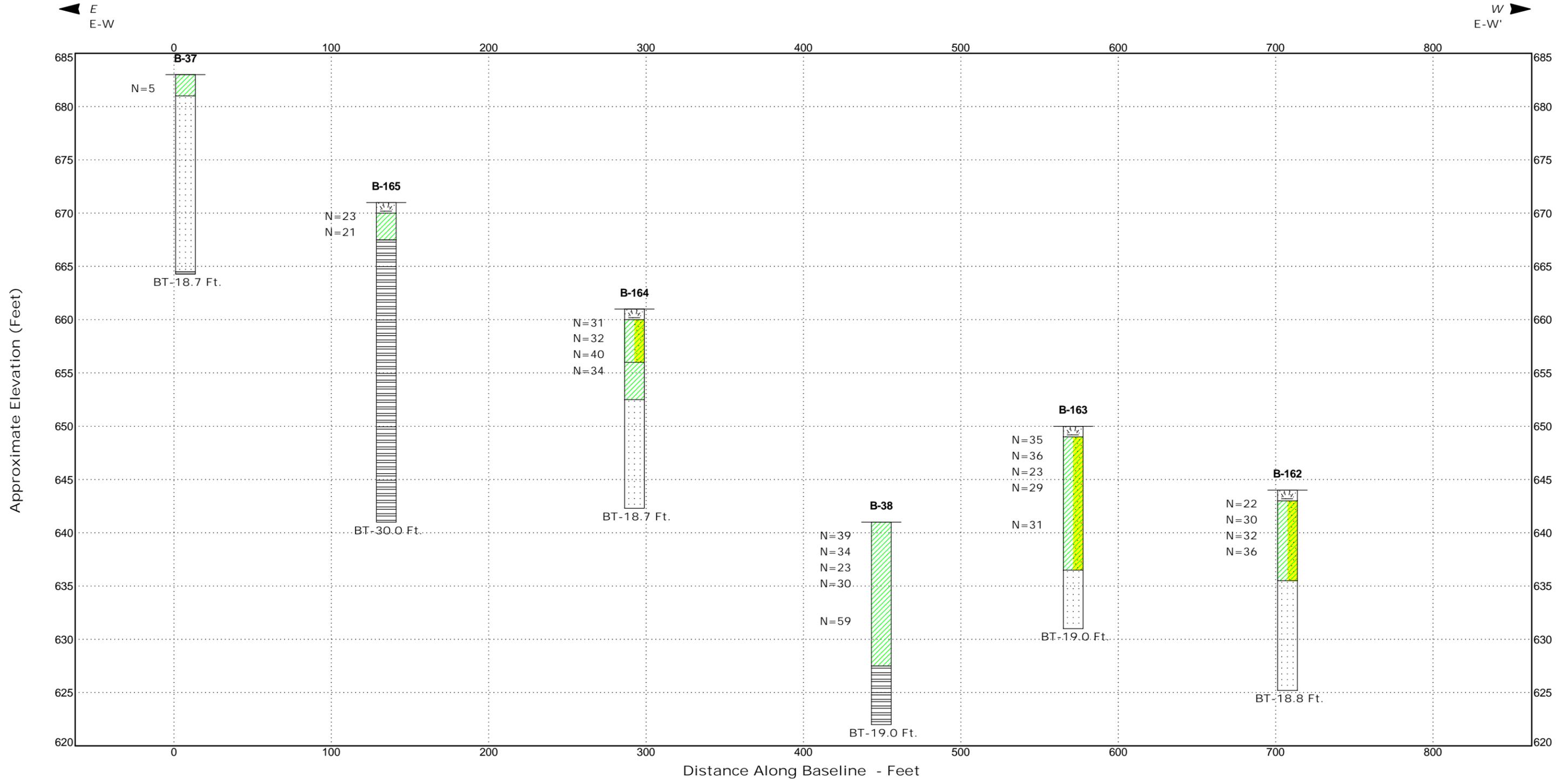
DC2A E-W #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-157 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>— Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>BT — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>Topsoil</p> <p>Sandy Silt</p> <p>Shale</p> <p>Lean Clay</p> <p>Lean Clay with Sand</p> <p>Sandstone</p>

Subsurface Profile

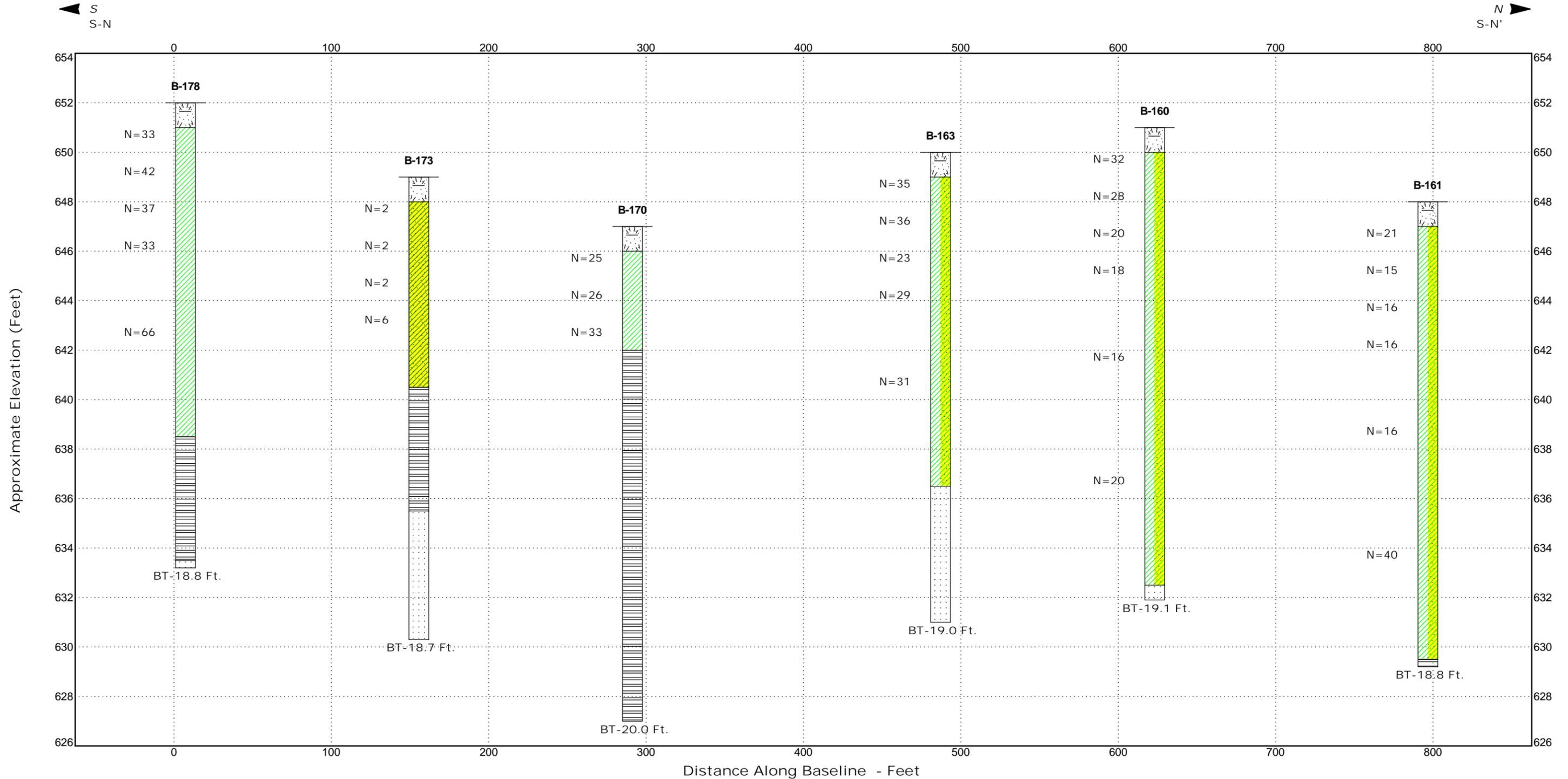
DC2A E-W #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-162 — Borehole Number</p> <p>☒ — LL PL — Liquid and Plastic Limits</p> <p>— — Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>Topsoil</p> <p>Lean Clay with Sand</p> <p>Sandstone</p> <p>Lean Clay</p> <p>Shale</p>

Subsurface Profile

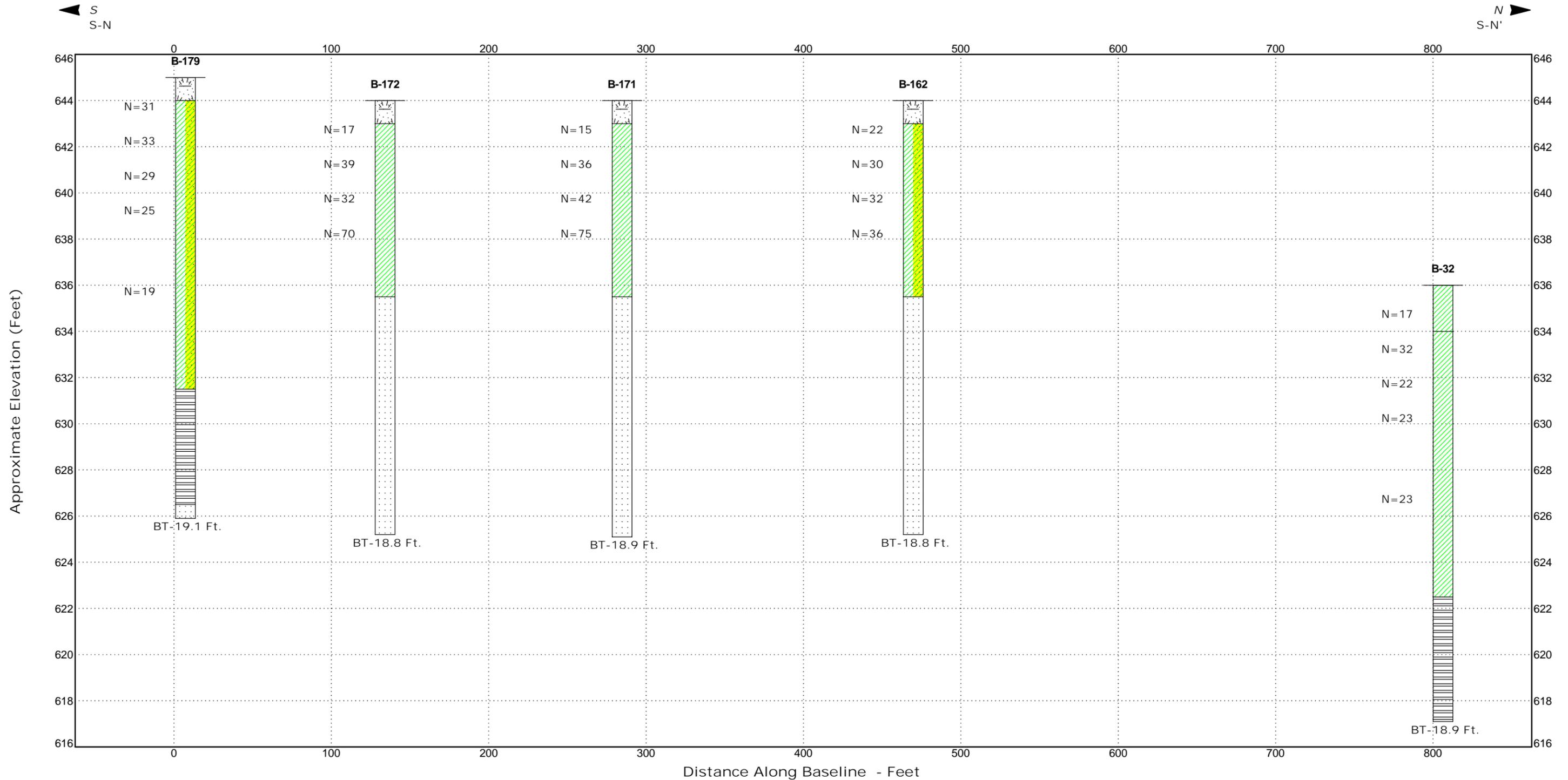
DC2A S-N #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-160 Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology AR BT Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Sandstone Shale Lean Clay Sandy Lean Clay</p>

Subsurface Profile

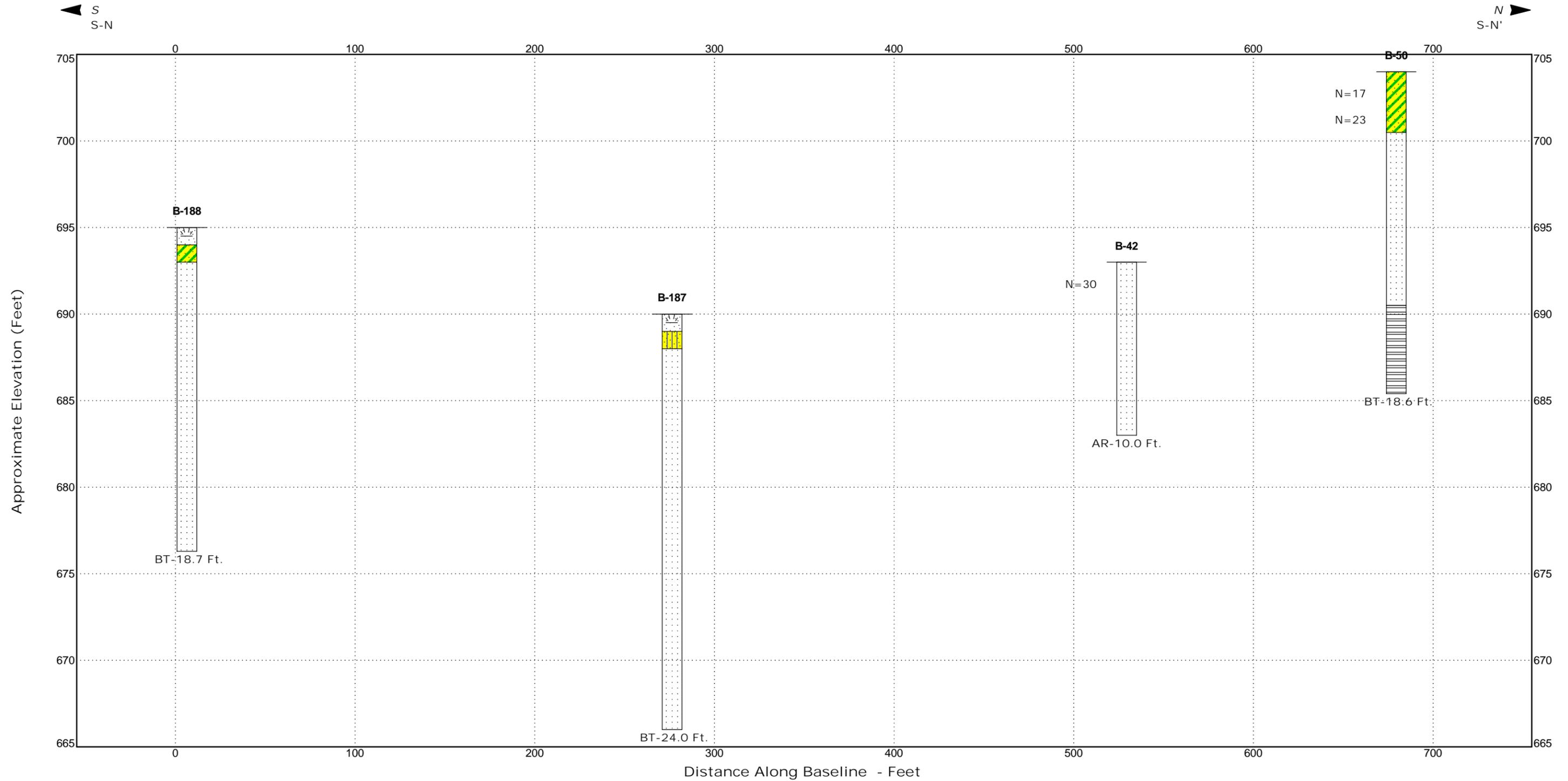
DC2A S-N #5



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-162 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Sandstone Lean Clay Shale</p>

Subsurface Profile

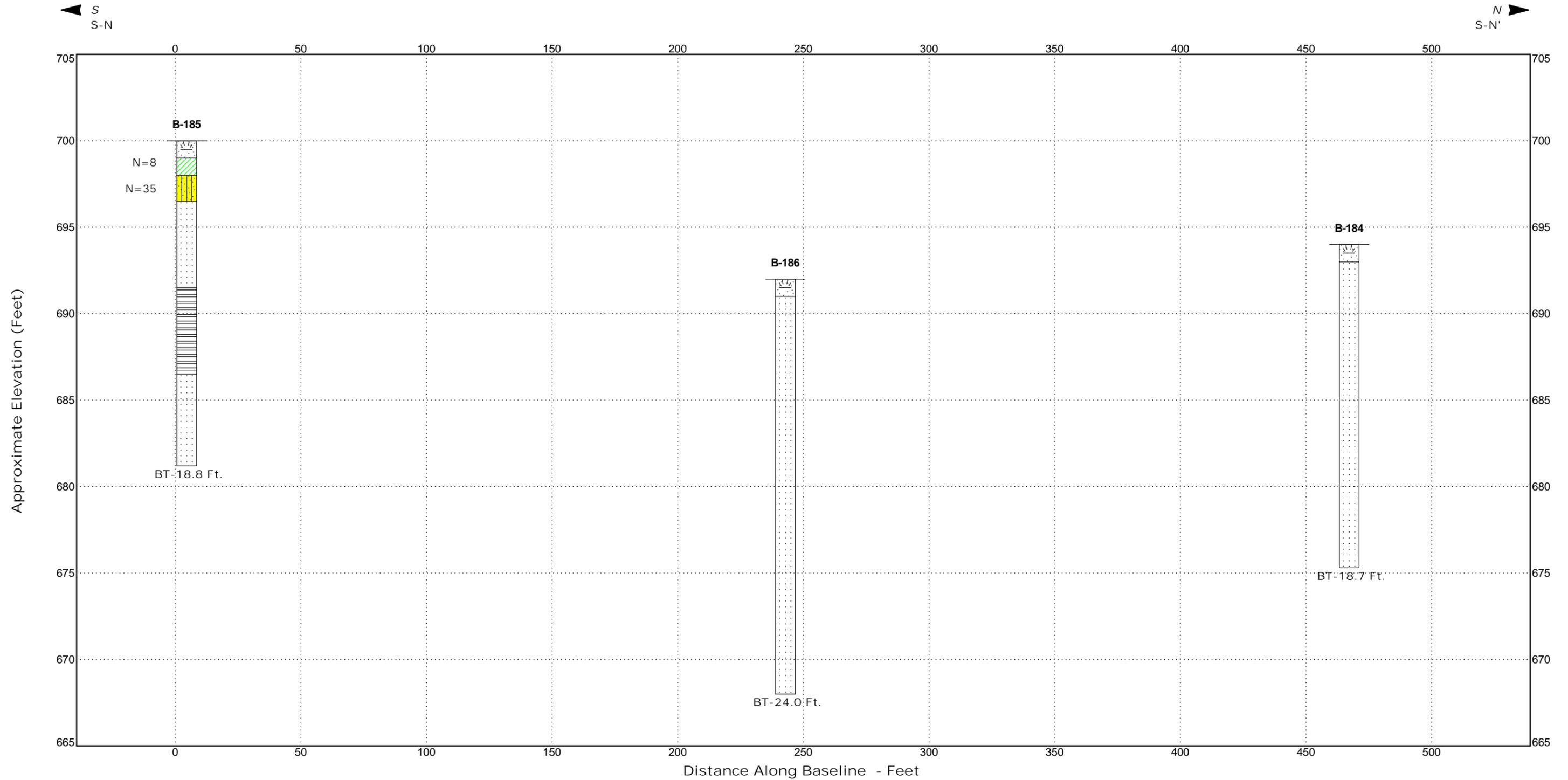
Switching Station S-N #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-187 Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Silty Sand Sandstone Clayey Sand Shale</p>

Subsurface Profile

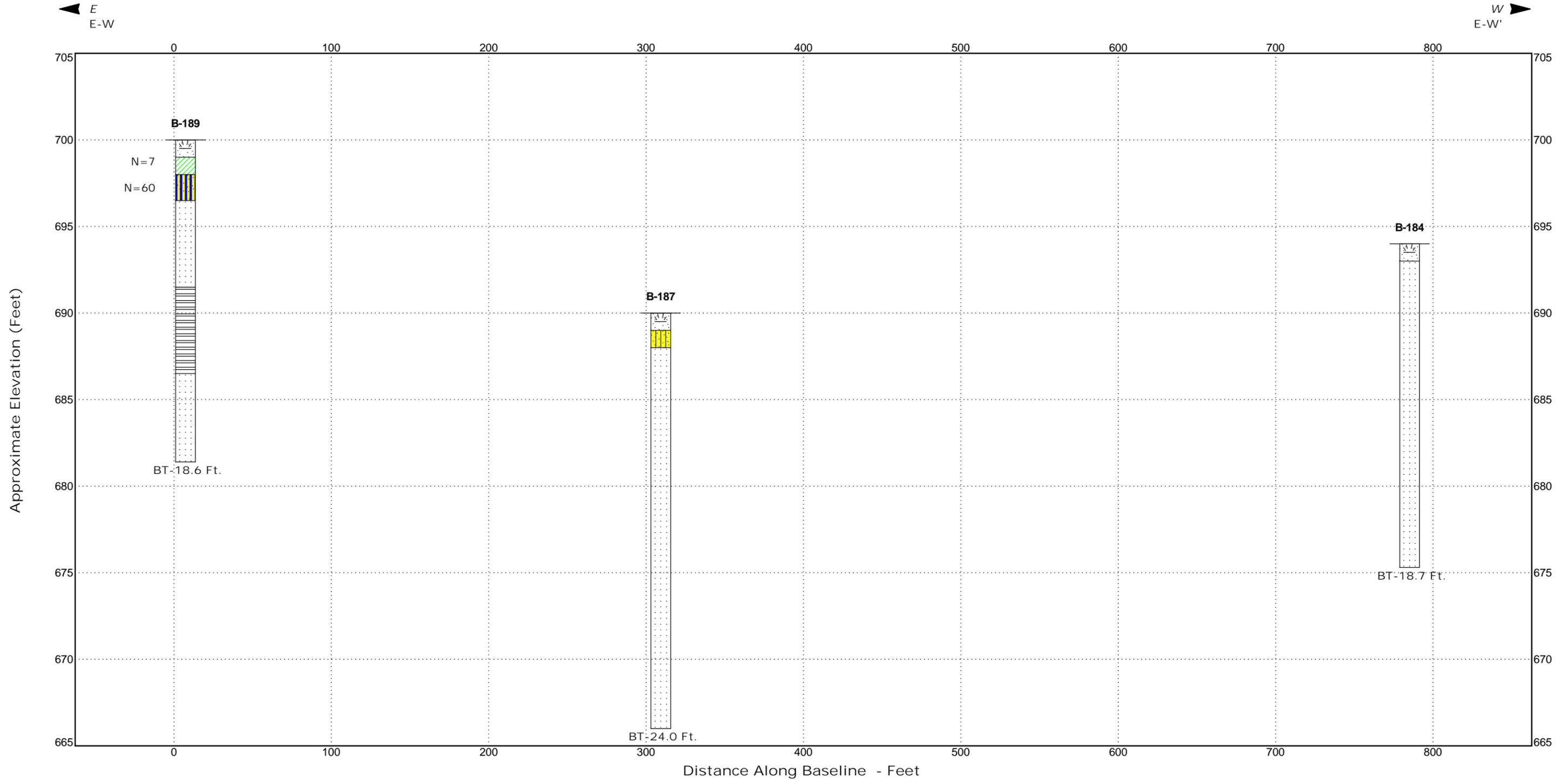
Switching Station S-N #2



Notes	Water Level Observations	Explanation	Material Legend
See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination	Water Level Reading at time of drilling. Water Level Reading after drilling.	B-184 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type Moisture Content — %w Sampling (See General Notes)	Topsoil Sandstone Lean Clay Silty Sand Shale

Subsurface Profile

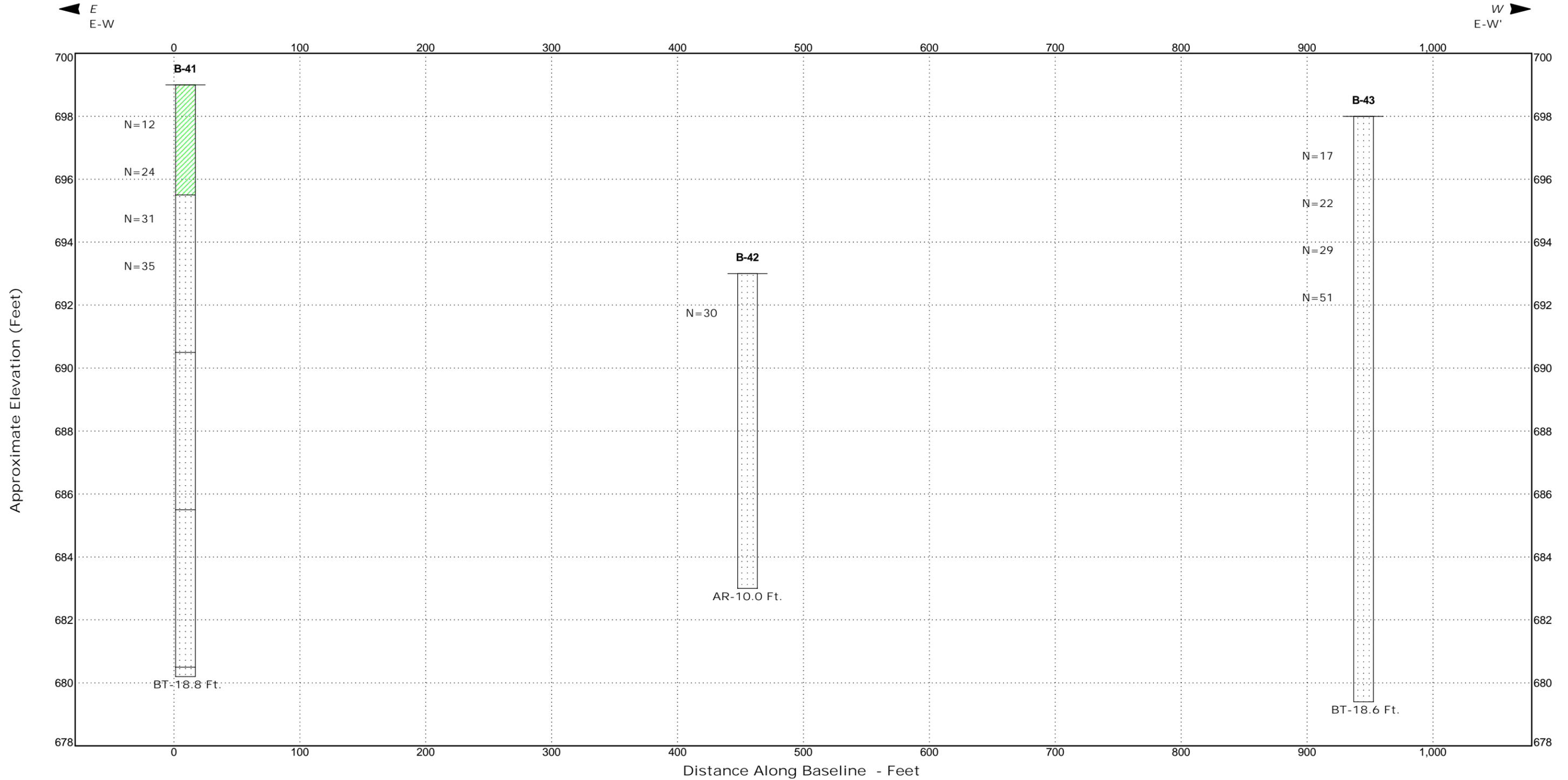
Switching Station E-W #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-184 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Sandstone Silty Sand Lean Clay Sandy Silt</p> <p>Shale</p>

Subsurface Profile

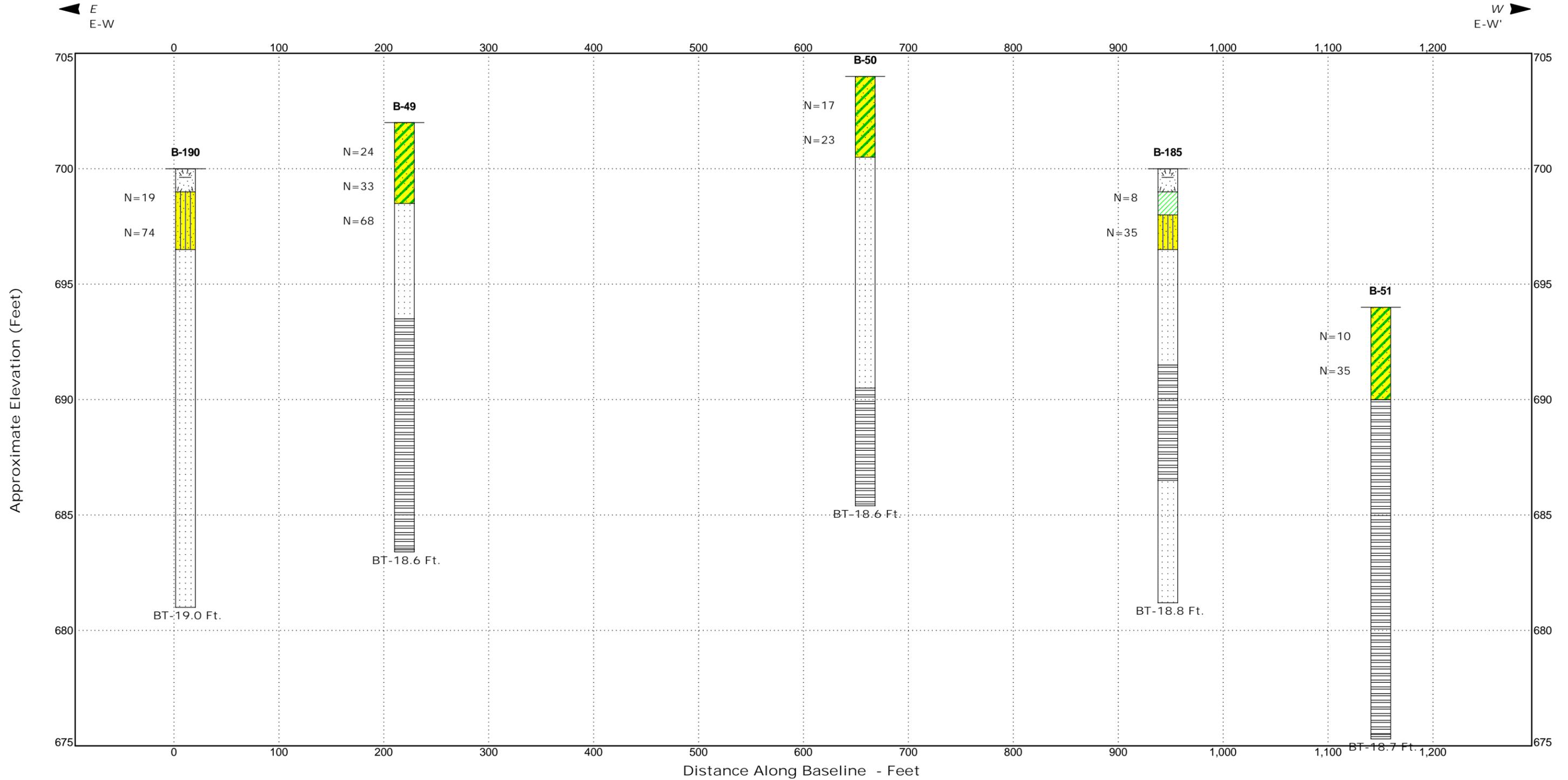
Switching Station E-W #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-41 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Lean Clay Sandstone</p>

Subsurface Profile

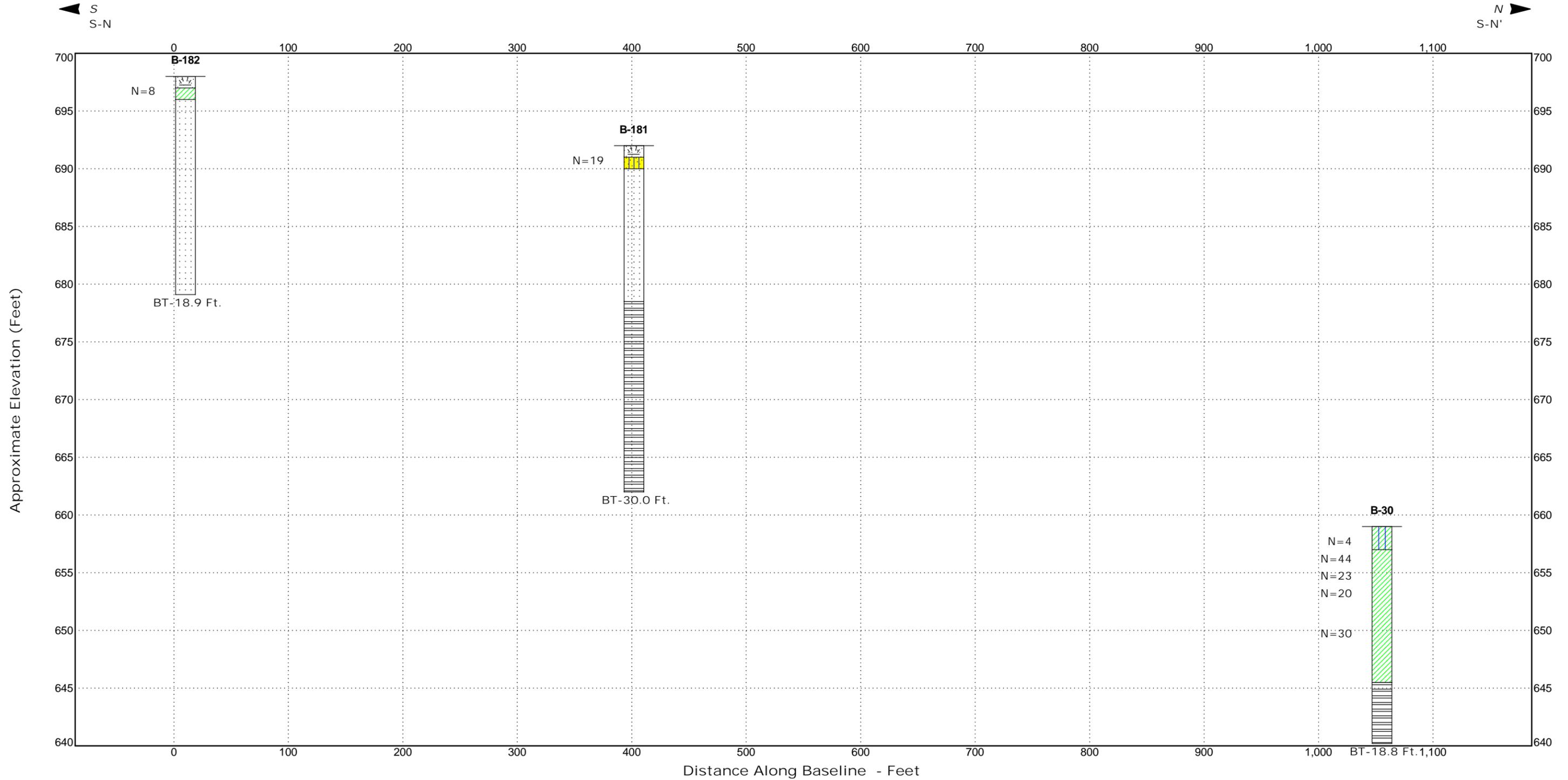
Switching Station E-W #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-185 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>— — Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling (See General Notes)</p>	<p>Topsoil</p> <p>Lean Clay</p> <p>Silty Sand</p> <p>Sandstone</p> <p>Shale</p> <p>Clayey Sand</p>

Subsurface Profile

Phase 2 Spine Road



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-181 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Silty Sand Sandstone Shale Lean Clay</p> <p>Silty Clay</p>

Phase 3 Fence Lines

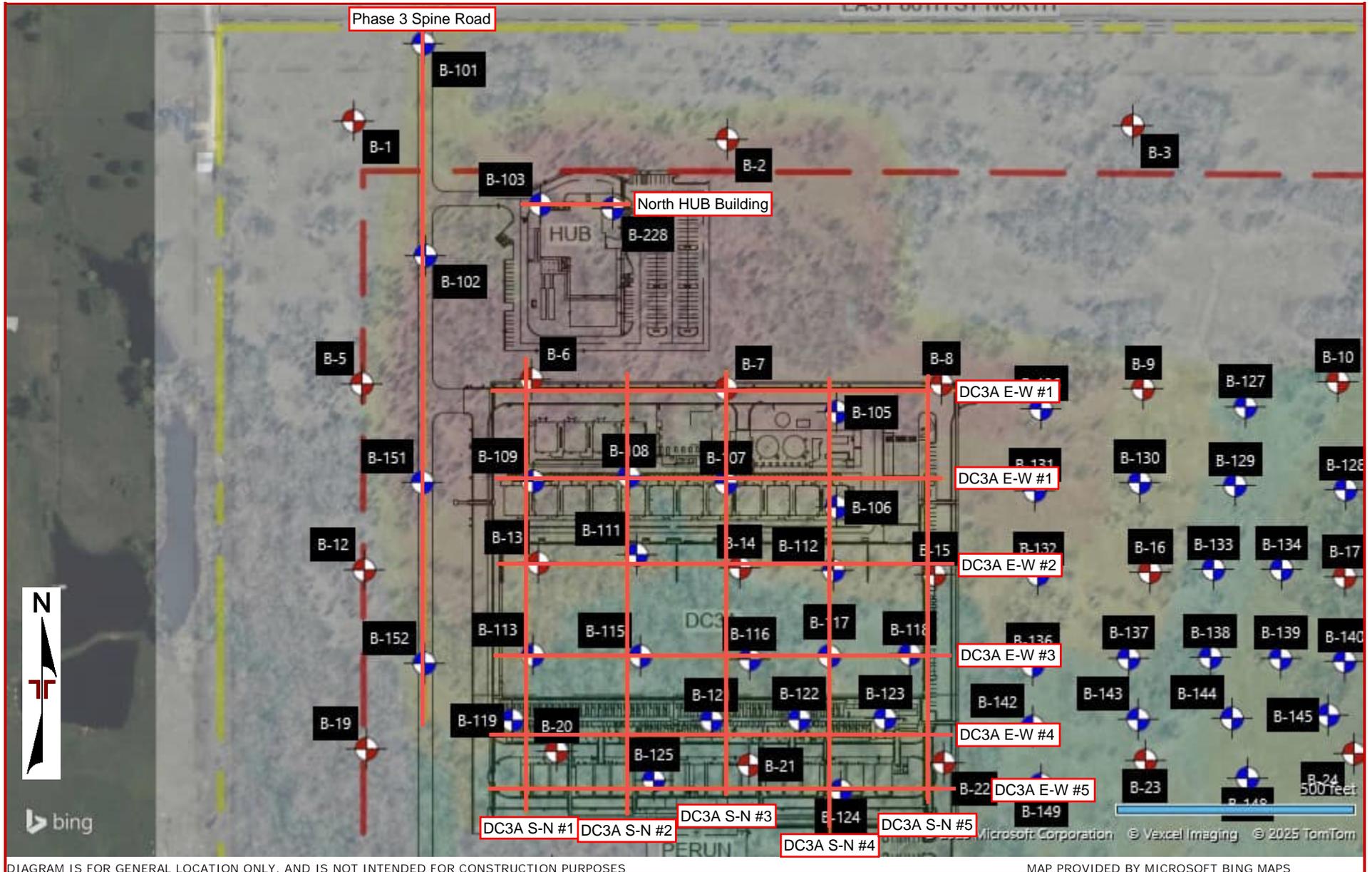
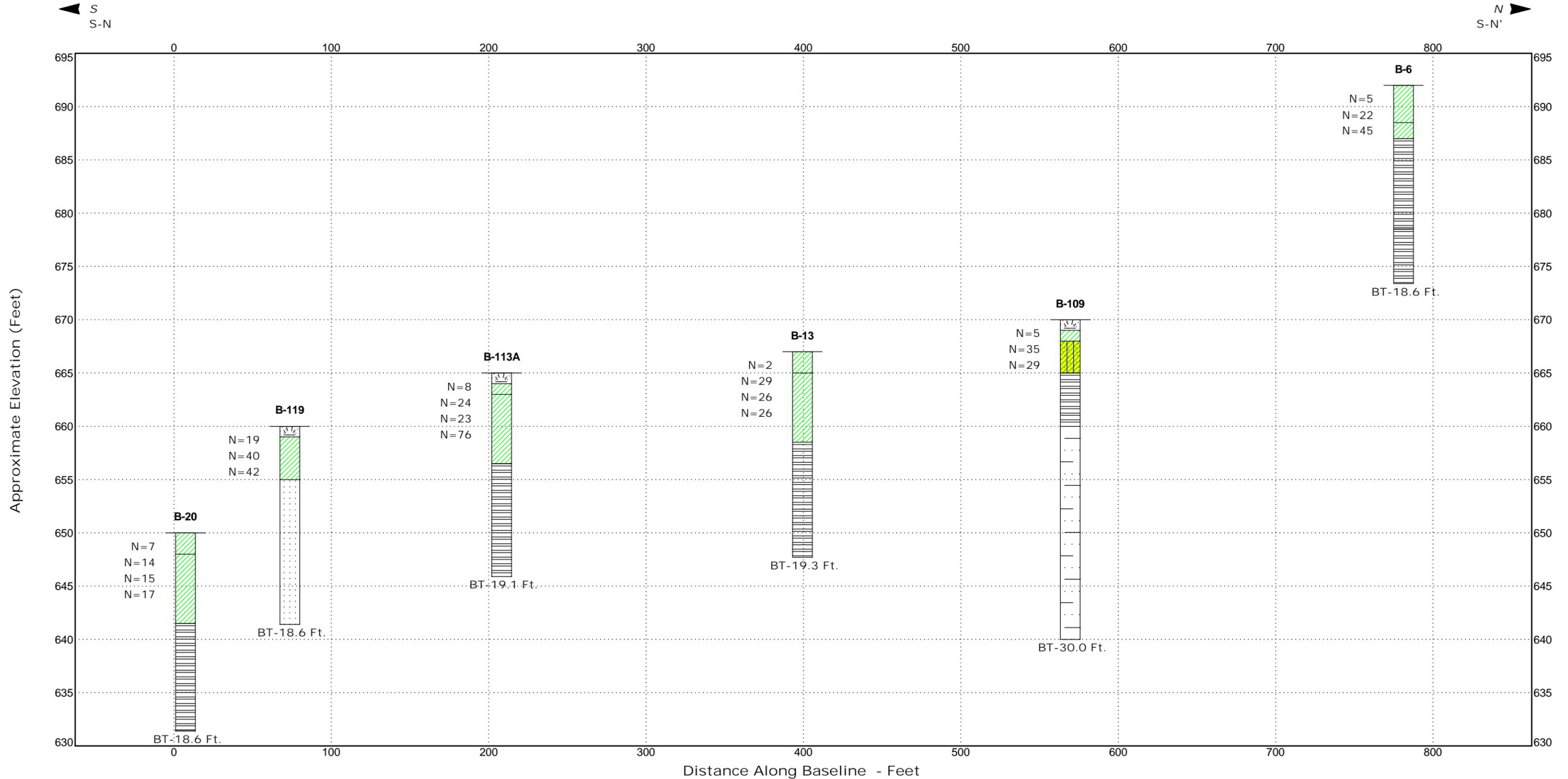


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

Subsurface Profile

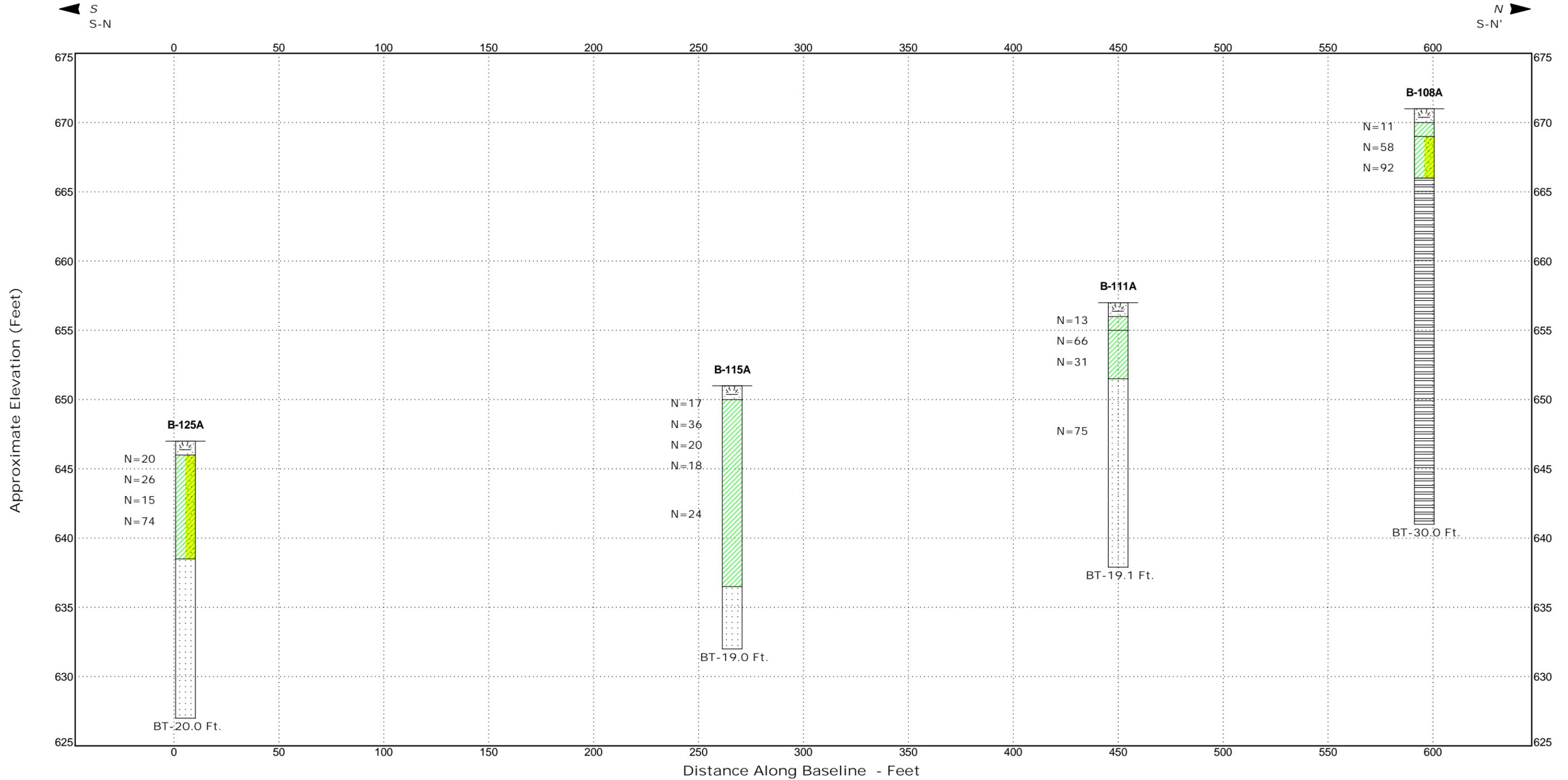
DC3A S-N #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>Moisture Content — %w Sampling (See General Notes) B-6 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p>	<p>Lean Clay Shale Topsoil Sandy Silty Clay Interbedded Sandstone and Shale Sandstone</p>

Subsurface Profile

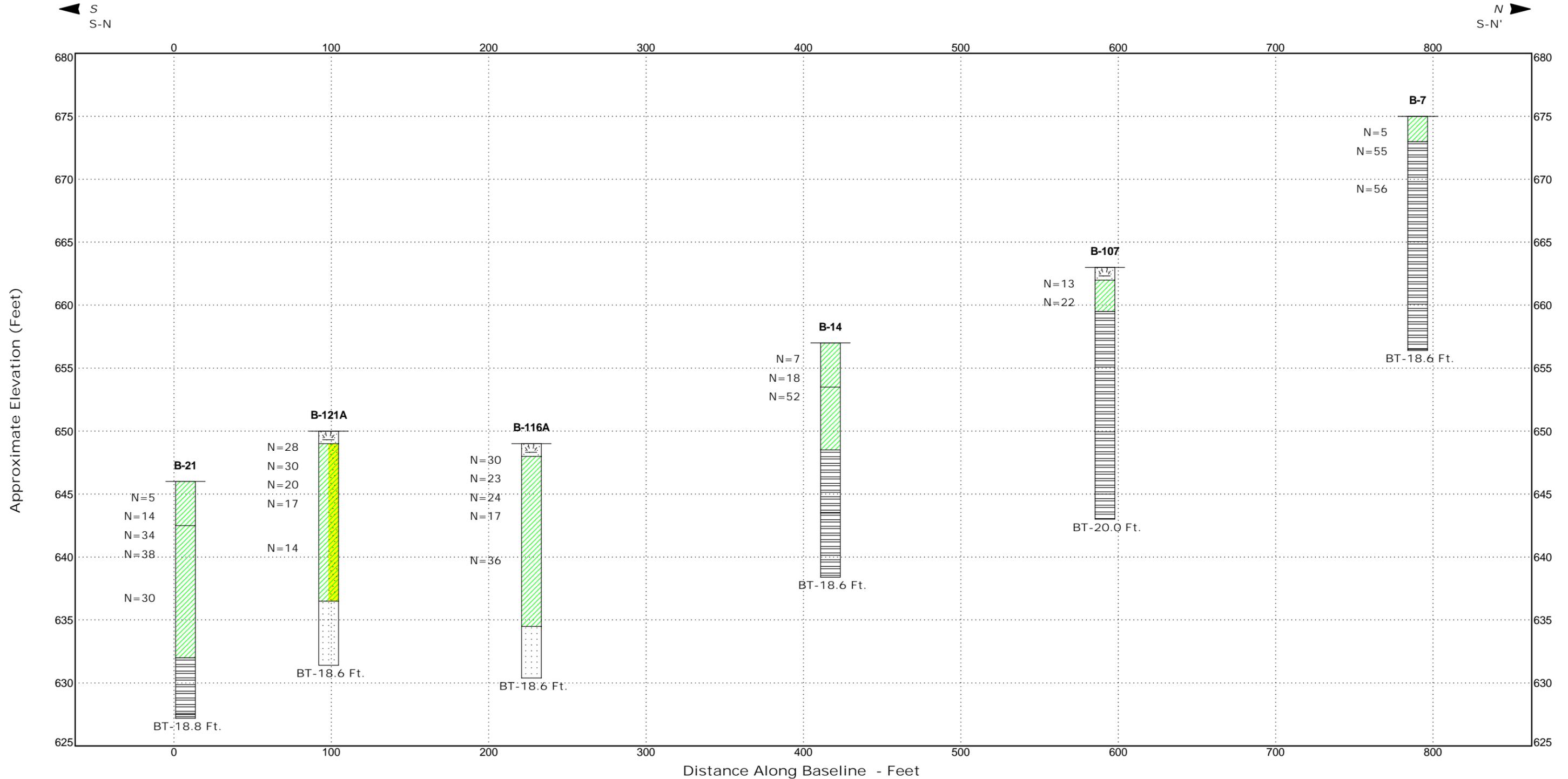
DC3A S-N #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p> Water Level Reading at time of drilling.</p> <p> Water Level Reading after drilling.</p>	<p>B-108A Borehole Number</p> <p>Moisture Content — %w</p> <p>LL PL — Liquid and Plastic Limits</p> <p>Sampling (See General Notes)</p> <p>AR — Auger Refusal</p> <p>BT — Borehole Termination Type</p>	<p> Topsoil</p> <p> Lean Clay</p> <p> Lean Clay with Sand</p> <p> Shale</p> <p> Sandstone</p>

Subsurface Profile

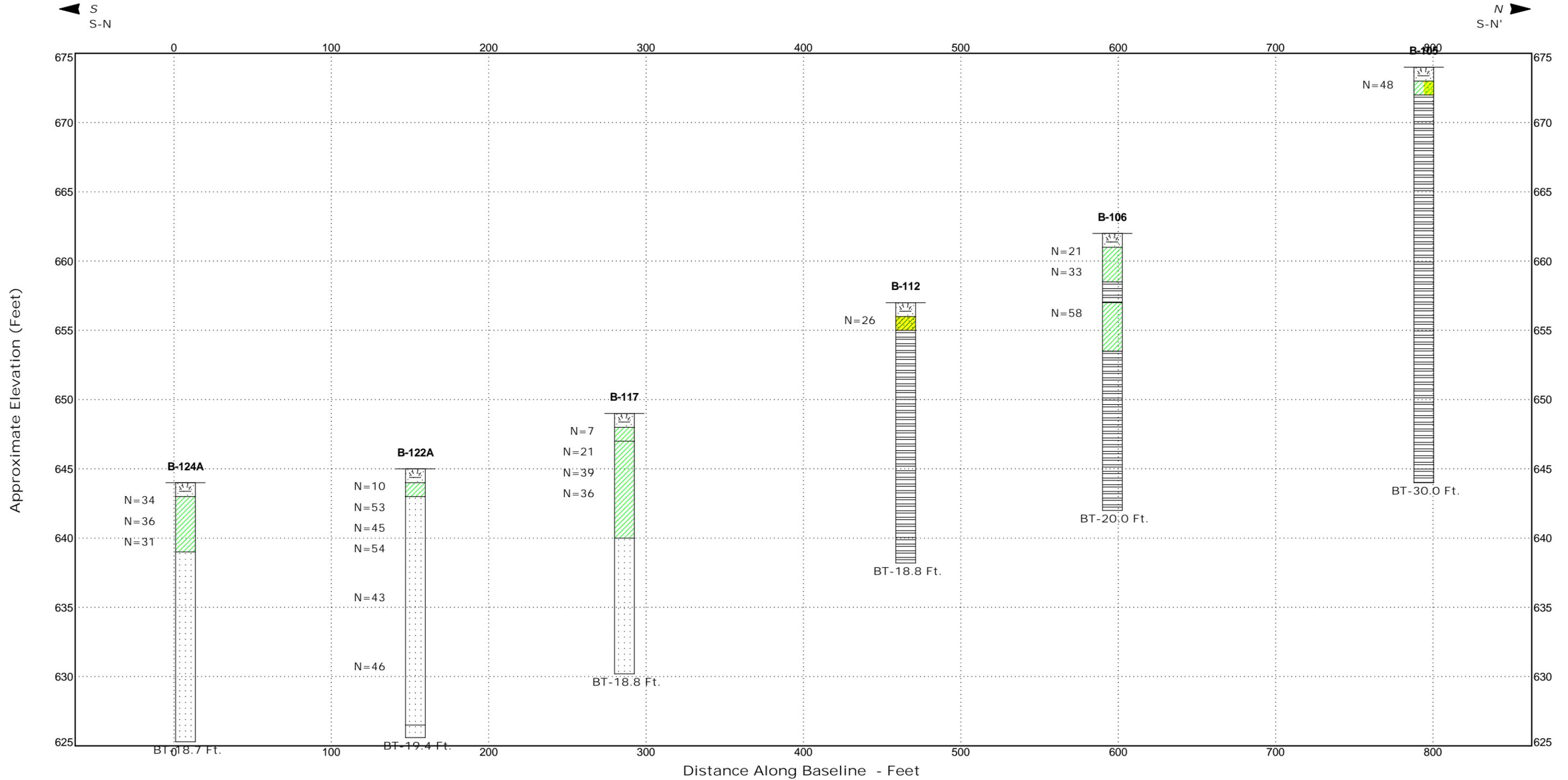
DC3A S-N #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-107 Borehole Number</p> <p>☒ LL PL Liquid and Plastic Limits</p> <p>▬ Borehole Lithology</p> <p>AR BT Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling (See General Notes)</p>	<p>Topsoil</p> <p>Lean Clay</p> <p>Shale</p> <p>Sandstone</p> <p>Lean Clay with Sand</p>

Subsurface Profile

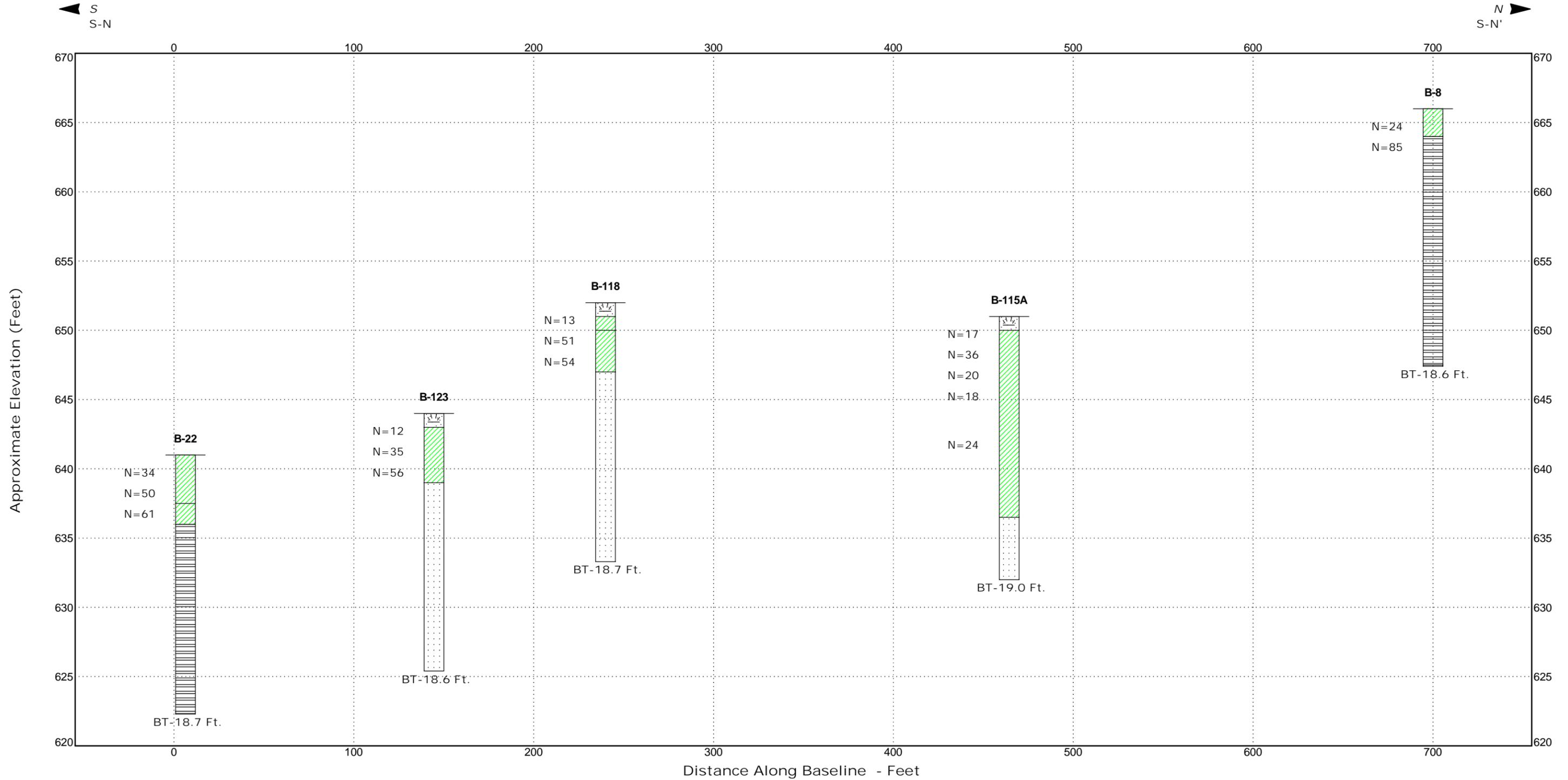
DC3A S-N #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-105 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Shale Lean Clay Sandy Lean Clay Sandstone</p>

Subsurface Profile

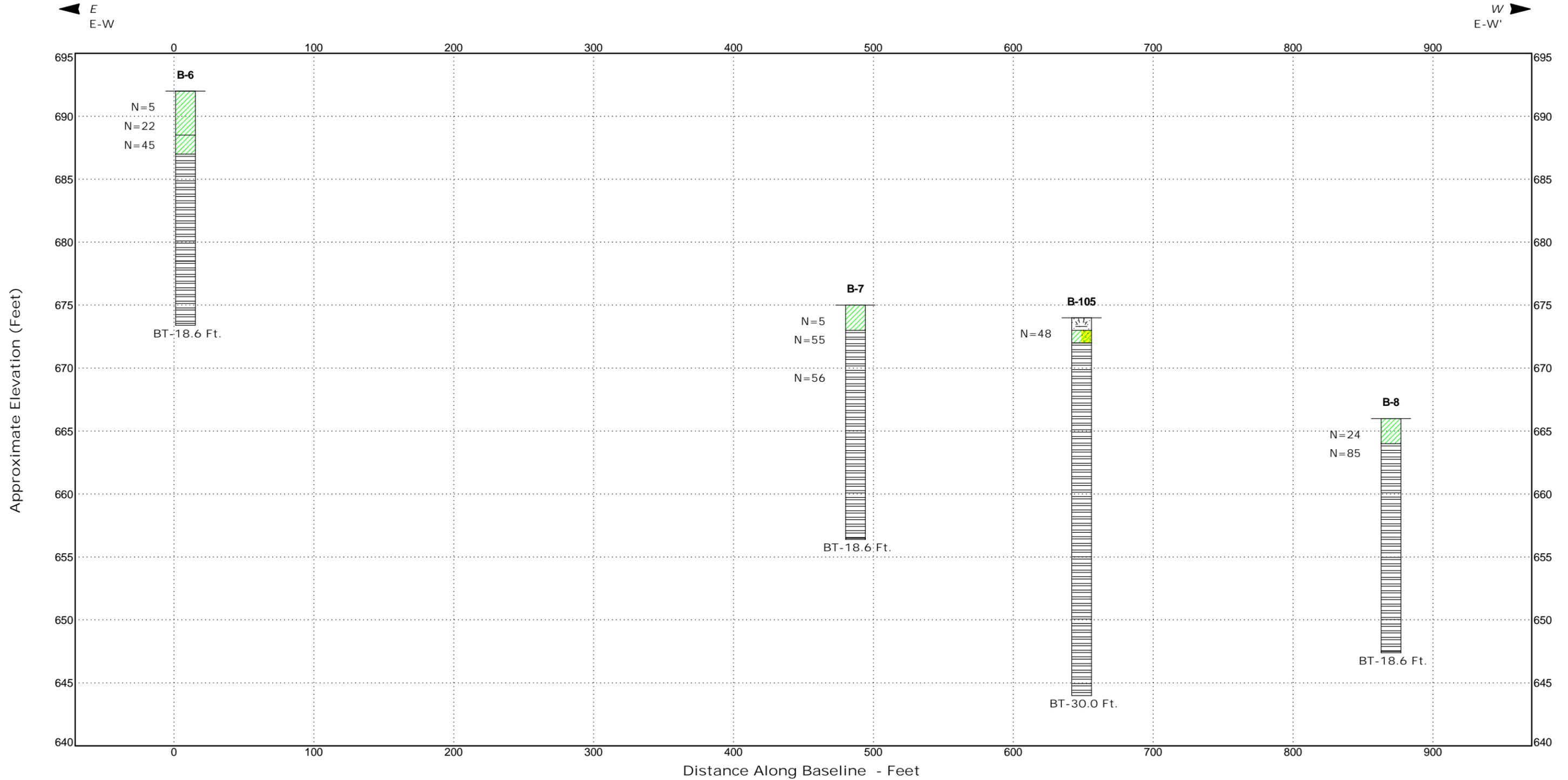
DC3A S-N #5



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p> Water Level Reading at time of drilling.</p> <p> Water Level Reading after drilling.</p>	<p> Borehole Number</p> <p> LL, PL — Liquid and Plastic Limits</p> <p> Borehole Lithology</p> <p> AR — Borehole Termination Type</p> <p> Moisture Content — %w</p> <p> Sampling (See General Notes)</p>	<p> Lean Clay</p> <p> Shale</p> <p> Topsoil</p> <p> Sandstone</p>

Subsurface Profile

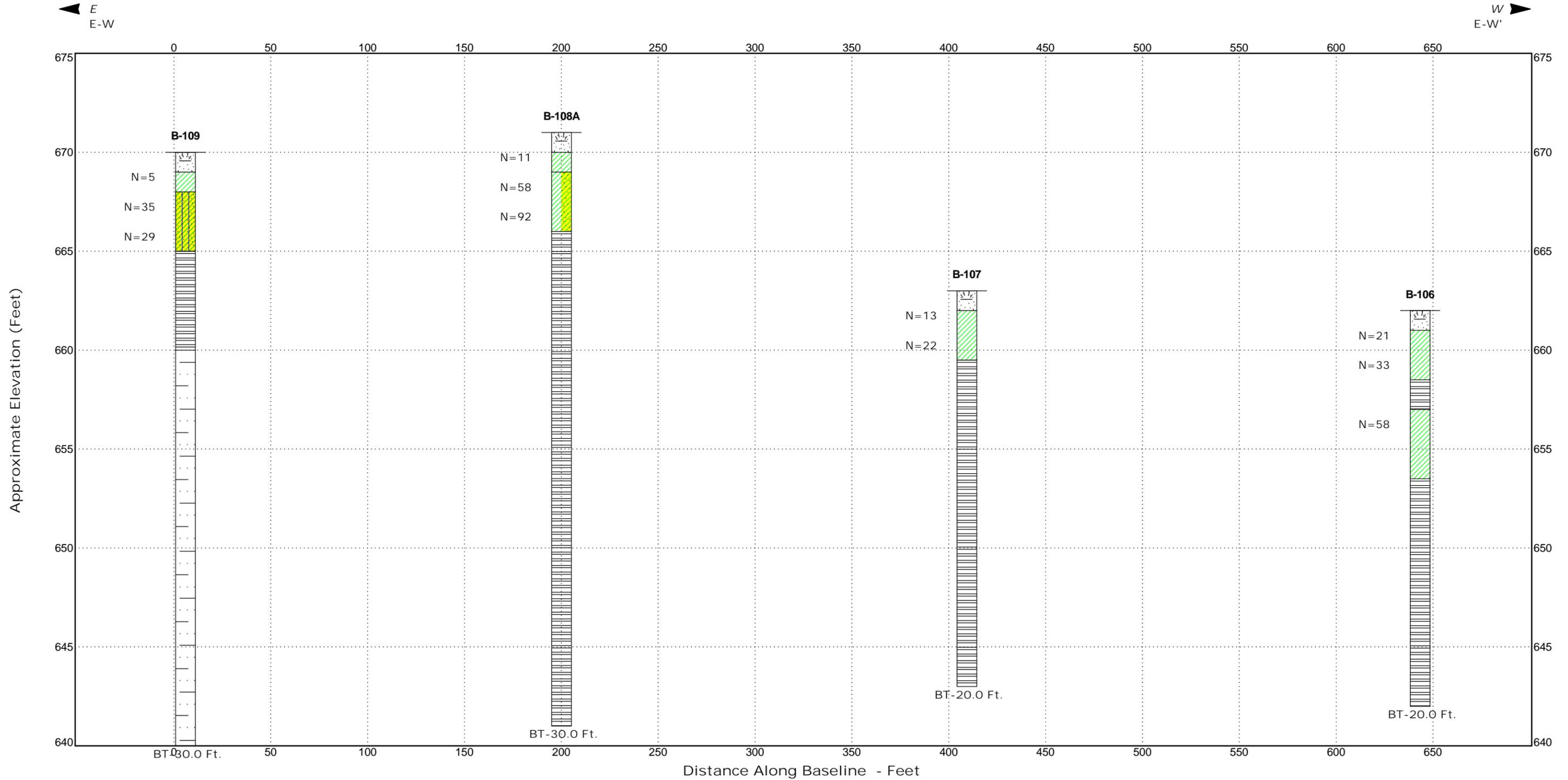
DC3A E-W #1



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile.</p> <p>See General Notes in Supporting Information for symbols and soil classifications.</p> <p>Soils profile provided for illustration purposes only.</p> <p>Soils between borings may differ</p> <p>AR - Auger Refusal</p> <p>BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling.</p> <p>▼ Water Level Reading after drilling.</p>	<p>B-105 — Borehole Number</p> <p>☒ — LL, PL — Liquid and Plastic Limits</p> <p>— Borehole Lithology</p> <p>AR — Borehole Termination Type</p> <p>BT — Borehole Termination Type</p> <p>Moisture Content — %w</p> <p>Sampling — (See General Notes)</p>	<p>☐ Topsoil</p> <p>☐ Lean Clay with Sand</p> <p>☐ Shale</p> <p>☐ Lean Clay</p>

Subsurface Profile

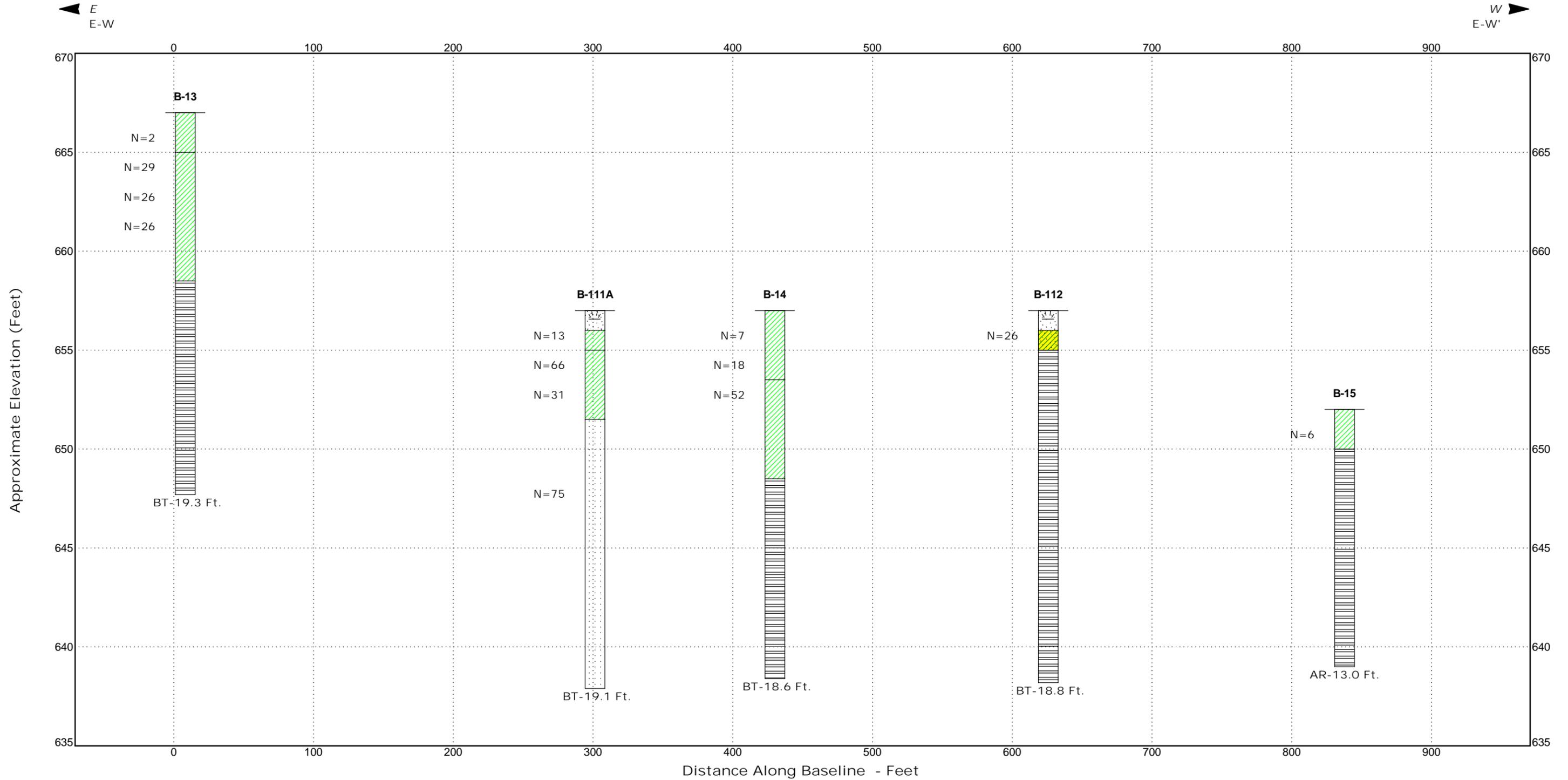
DC3A E-W #2



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-106 Borehole Number LL PL Liquid and Plastic Limits Sampling (See General Notes) AR Auger Refusal BT Boring Termination</p>	<p>Topsoil Lean Clay Shale Interbedded Sandstone and Shale Lean Clay with Sand Sandy Silty Clay</p>

Subsurface Profile

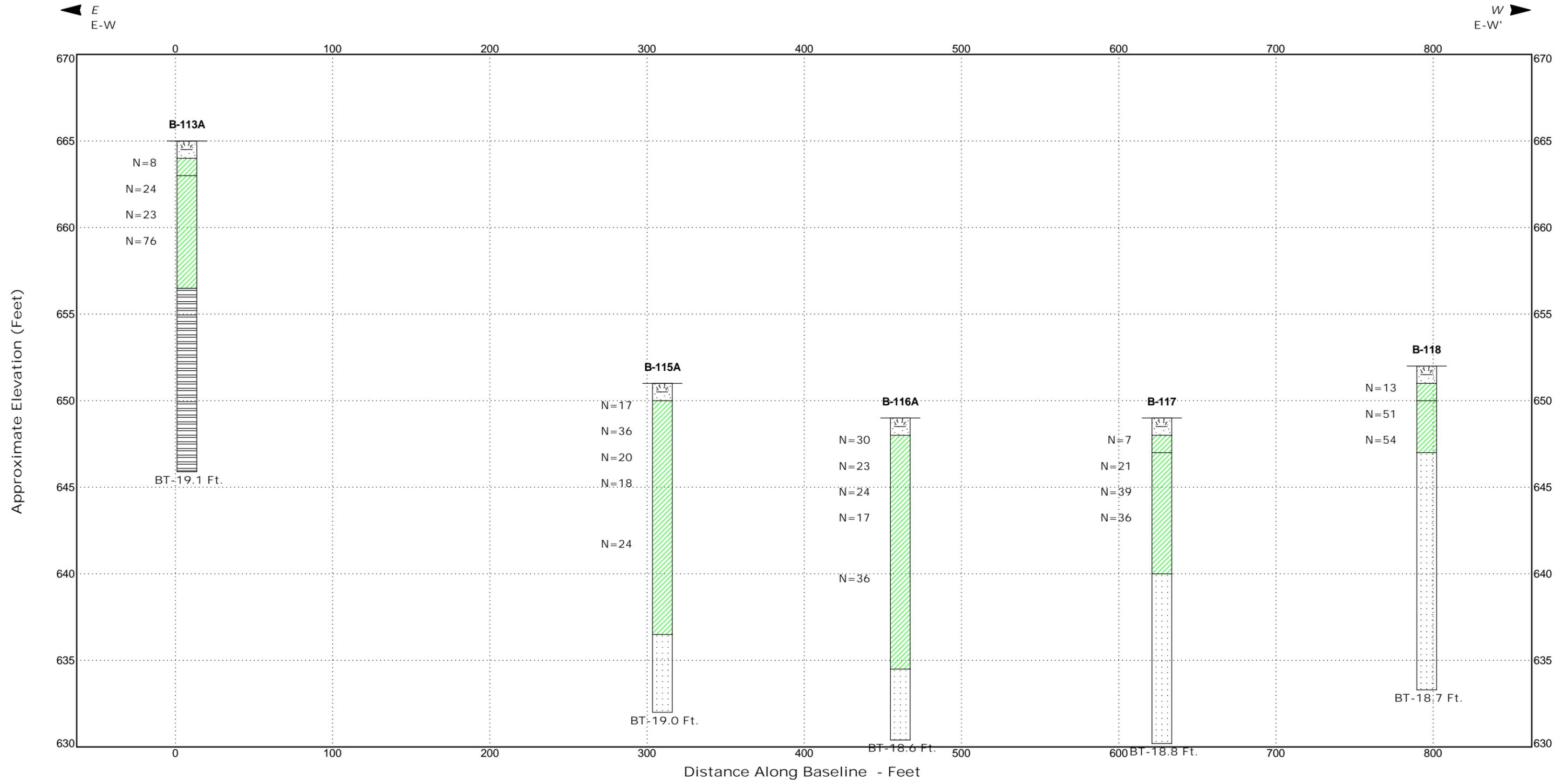
DC3A E-W #3



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-111A Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology AR BT Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Sandstone Sandy Lean Clay Shale</p>

Subsurface Profile

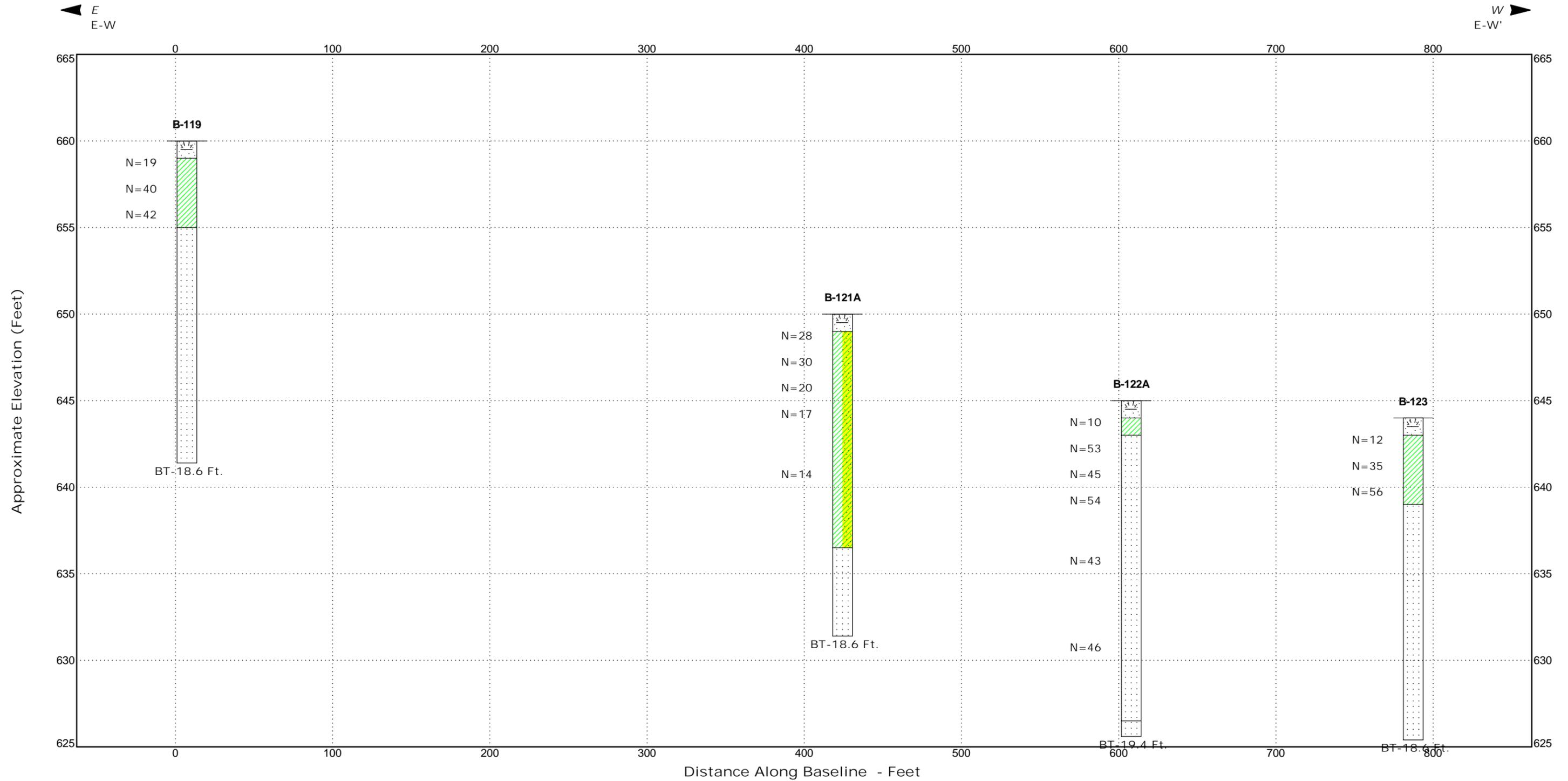
DC3A E-W #4



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-113A Borehole Number LL PL Liquid and Plastic Limits Borehole Lithology AR BT Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Shale Sandstone</p>

Subsurface Profile

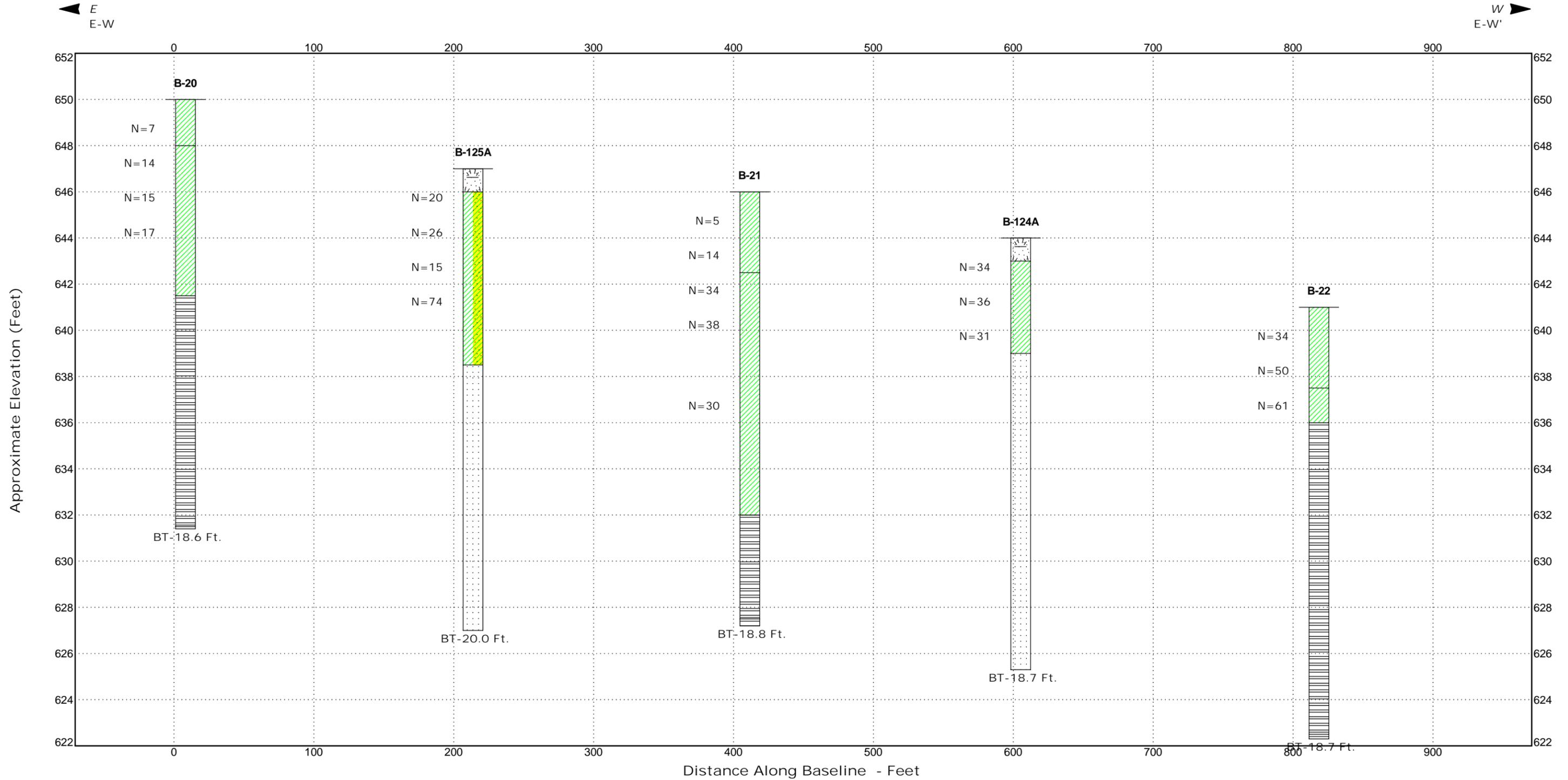
DC3A E-W #5



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-119 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Sandstone Lean Clay with Sand</p>

Subsurface Profile

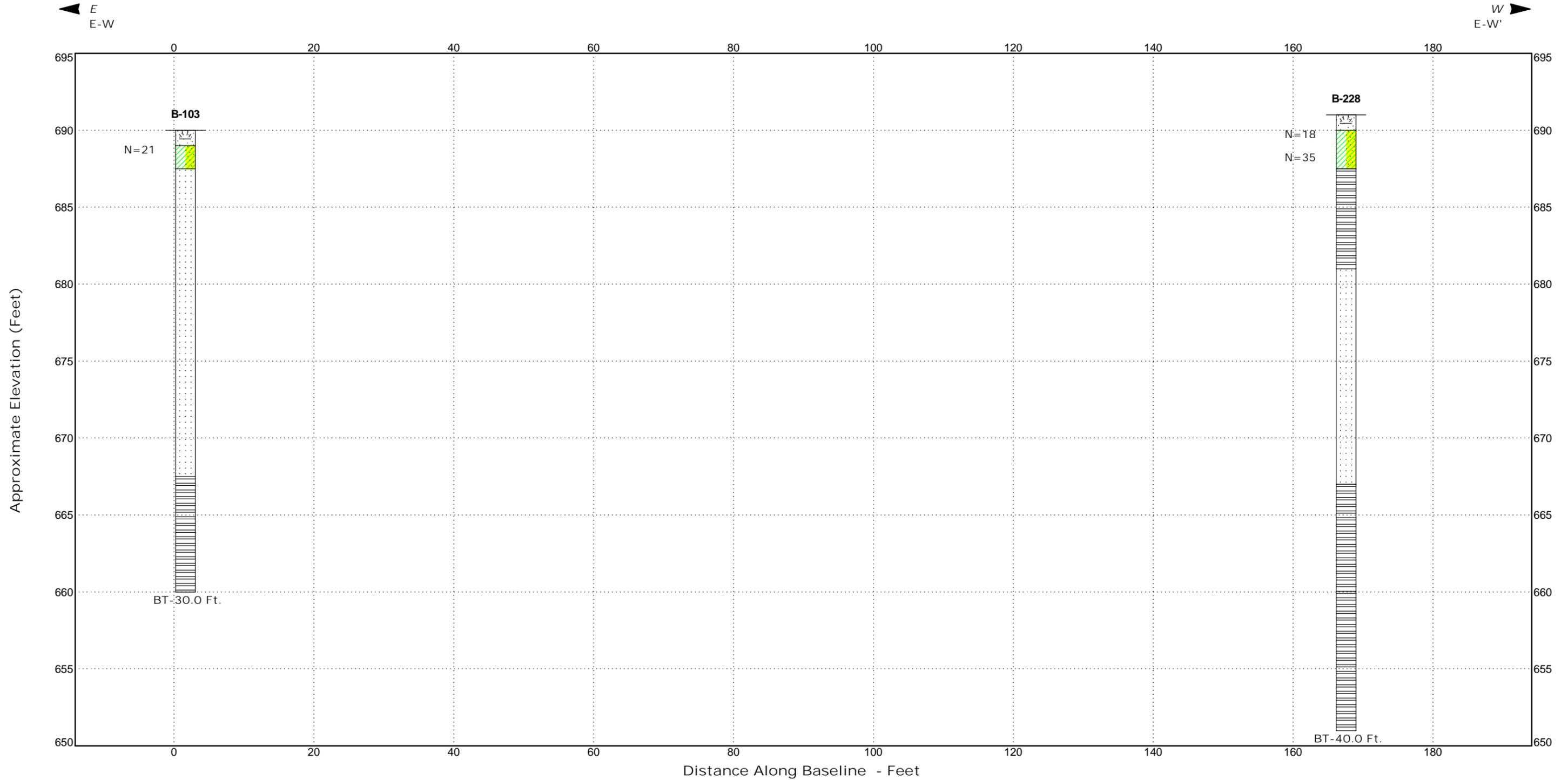
DC3A E-W #6



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-20 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Auger Refusal BT — Boring Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Lean Clay Shale Topsoil Sandstone Lean Clay with Sand</p>

Subsurface Profile

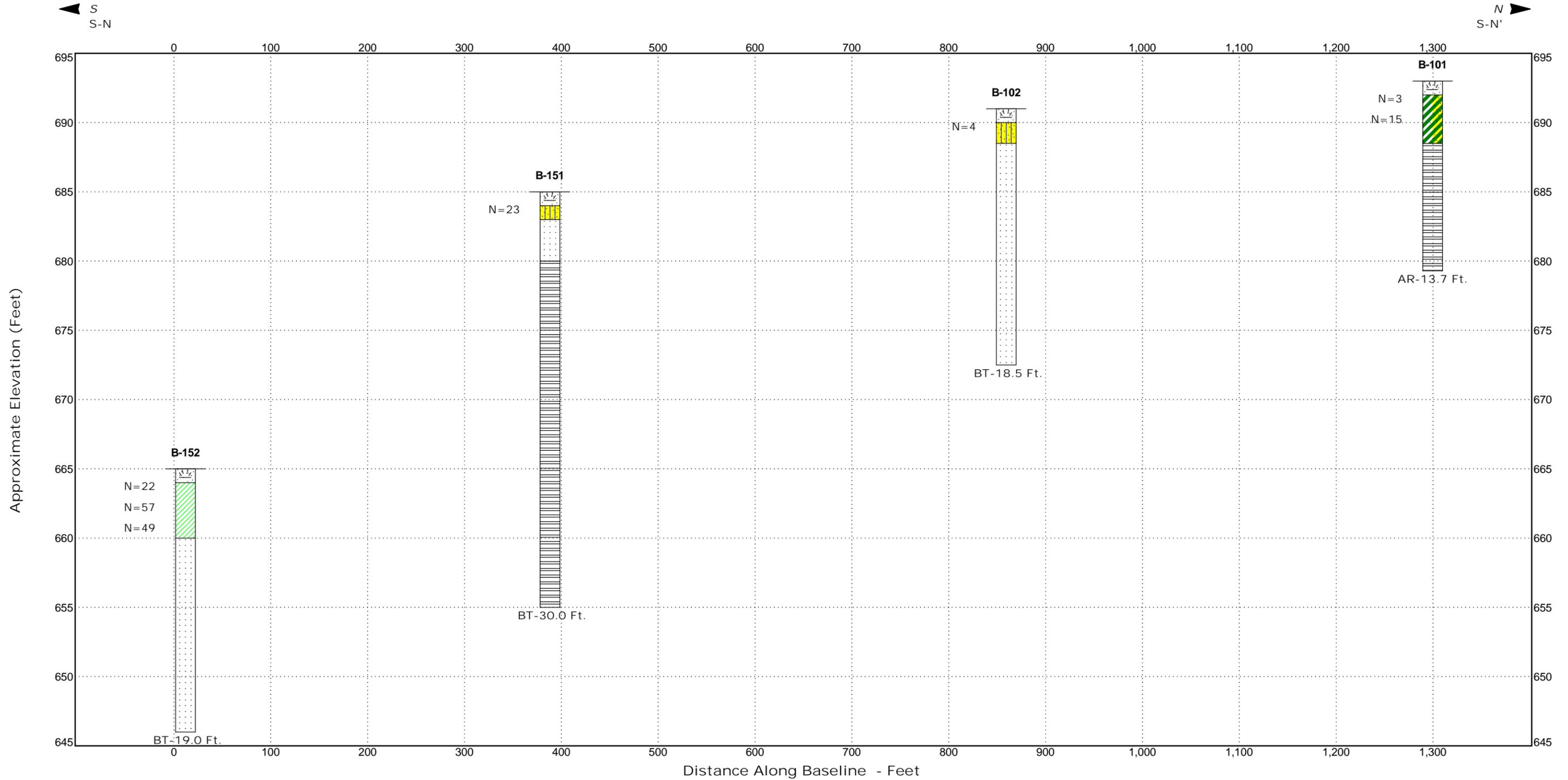
North HUB Building



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▽ Water Level Reading after drilling.</p>	<p>B-228 — Borehole Number □ — LL PL — Liquid and Plastic Limits — Borehole Lithology AR — Borehole Termination Type BT — Borehole Termination Type Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay with Sand Shale Sandstone</p>

Subsurface Profile

Phase 3 Spine Road



Notes	Water Level Observations	Explanation	Material Legend
<p>See Exploration Plan for orientation of soil profile. See General Notes in Supporting Information for symbols and soil classifications. Soils profile provided for illustration purposes only. Soils between borings may differ AR - Auger Refusal BT - Boring Termination</p>	<p>▽ Water Level Reading at time of drilling. ▼ Water Level Reading after drilling.</p>	<p>B-101 — Borehole Number LL PL — Liquid and Plastic Limits — Borehole Lithology AR BT — Borehole Termination Type</p> <p>Moisture Content — %w Sampling (See General Notes)</p>	<p>Topsoil Lean Clay Fat Clay with Sand Silty Sand Shale Sandstone</p>

Rock Core Photography Logs

Rock Core Photography Log



B-103; 10-20 ft



B-103; 20-30 ft



B-103; 25-30 ft



B-105; 10-20 ft



B-105; 20-30 ft



B-106; 10-20 ft



B-107; 10-20 ft



B-108A; 10-20 ft



B-108A; 19-30 ft



B-109; 10-20 ft



B-109; 20-30 ft



B-125A; 10-20 ft



B-126; 10-20 ft



B-126; 20-30 ft



B-131; 20-30 ft



B-137; 10-20 ft



B-141; 25-30 ft



B-148; 10-20 ft



B-151; 10-20 ft



B-151; 20-30 ft



B-152; 20-30 ft



B-156; 10-20 ft



B-156; 20-30 ft



B-157; 10-20 ft



B-157; 30-40 ft



B-158; 10-20 ft



B-158; 20-30 ft



B-165; 10-20 ft



B-165; 20-30 ft



B-166; 15-25 ft



B-166; 25-35 ft



B-167; 10-20 ft



B-167; 20-30 ft



B-170; 10-20 ft



B-176; 15-25 ft



B-176; 25-35 ft



B-176; 35-40 ft



B-181; 10-20 ft



B-181; 15-25 ft



B-181; 25-30 ft



B-186; 14-24 ft



B-187; 14-24 ft



B-191; 15-25 ft



B-195; 20-30 ft



B-197; 10-20 ft



B-197; 20-30 ft



B-199; 20-30 ft



B-203; 15-25 ft



B-207; 20-30 ft

Supporting Information

Contents:

General Notes

Unified Soil Classification System

Rock Classification Notes

Note: All attachments are one page unless noted above.

General Notes

Sampling	Water Level	Field Tests
 Rock Core  Grab Sample  Shelby Tube  Standard Penetration Test	 Water Initially Encountered  Water Level After a Specified Period of Time  Water Level After a Specified Period of Time  Cave In Encountered Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.	N Standard Penetration Test Resistance (Blows/Ft.) (HP) Hand Penetrometer (T) Torvane (DCP) Dynamic Cone Penetrometer UC Unconfined Compressive Strength (PID) Photo-Ionization Detector (OVA) Organic Vapor Analyzer

Descriptive Soil Classification

Soil classification as noted on the soil boring logs is based Unified Soil Classification System. Where sufficient laboratory data exist to classify the soils consistent with ASTM D2487 "Classification of Soils for Engineering Purposes" this procedure is used. ASTM D2488 "Description and Identification of Soils (Visual-Manual Procedure)" is also used to classify the soils, particularly where insufficient laboratory data exist to classify the soils in accordance with ASTM D2487. In addition to USCS classification, coarse grained soils are classified on the basis of their in-place relative density, and fine-grained soils are classified on the basis of their consistency. See "Strength Terms" table below for details. The ASTM standards noted above are for reference to methodology in general. In some cases, variations to methods are applied as a result of local practice or professional judgment.

Location And Elevation Notes

Exploration point locations as shown on the Exploration Plan and as noted on the soil boring logs in the form of Latitude and Longitude are approximate. See Exploration and Testing Procedures in the report for the methods used to locate the exploration points for this project. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

Strength Terms

Relative Density of Coarse-Grained Soils (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		Consistency of Fine-Grained Soils (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Relative Density	Standard Penetration or N-Value (Blows/Ft.)	Consistency	Unconfined Compressive Strength Qu (psi)	Standard Penetration or N-Value (Blows/Ft.)
Very Loose	0 - 3	Very Soft	less than 3.50	0 - 1
Loose	4 - 9	Soft	3.5 to 7.0	2 - 4
Medium Dense	10 - 29	Medium Stiff	7.0 to 14.0	5 - 8
Dense	30 - 50	Stiff	14.0 to 28.0	9 - 15
Very Dense	> 50	Very Stiff	28.0 to 55.5	16 - 30
		Hard	> 55.5	> 30

Relevance of Exploration and Laboratory Test Results

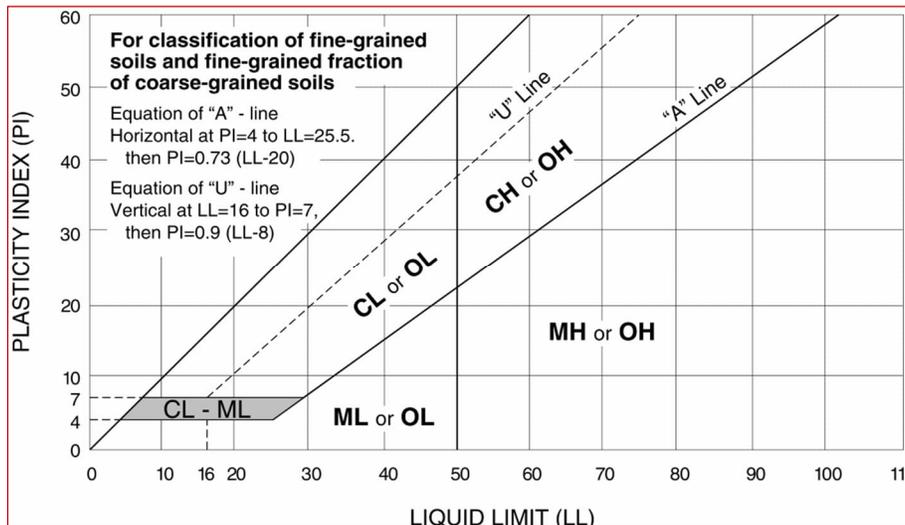
Exploration/field results and/or laboratory test data contained within this document are intended for application to the project as described in this document. Use of such exploration/field results and/or laboratory test data should not be used independently of this document.

Unified Soil Classification System

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests ^A				Soil Classification	
				Group Symbol	Group Name ^B
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	Gravels: More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels: Less than 5% fines ^C	$Cu \geq 4$ and $1 \leq Cc \leq 3$ ^E	GW	Well-graded gravel ^F
		Gravels with Fines: More than 12% fines ^C	$Cu < 4$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	GP	Poorly graded gravel ^F
			Fines classify as ML or MH	GM	Silty gravel ^{F, G, H}
		Sands: 50% or more of coarse fraction passes No. 4 sieve	Clean Sands: Less than 5% fines ^D	Fines classify as CL or CH	GC
	$Cu \geq 6$ and $1 \leq Cc \leq 3$ ^E			SW	Well-graded sand ^I
	Sands with Fines: More than 12% fines ^D		$Cu < 6$ and/or $[Cc < 1$ or $Cc > 3.0]$ ^E	SP	Poorly graded sand ^I
			Fines classify as ML or MH	SM	Silty sand ^{G, H, I}
	Fine-Grained Soils: 50% or more passes the No. 200 sieve	Silts and Clays: Liquid limit less than 50	Inorganic:	PI > 7 and plots above "A" line ^J	CL
PI < 4 or plots below "A" line ^J				ML	Silt ^{K, L, M}
Organic:			$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$	OL	Organic clay ^{K, L, M, N} Organic silt ^{K, L, M, O}
			Silts and Clays: Liquid limit 50 or more	Inorganic:	PI plots on or above "A" line
PI plots below "A" line		MH			Elastic silt ^{K, L, M}
Organic:		$\frac{LL \text{ oven dried}}{LL \text{ not dried}} < 0.75$		OH	Organic clay ^{K, L, M, P} Organic silt ^{K, L, M, Q}
		Highly organic soils:		Primarily organic matter, dark in color, and organic odor	

- ^A Based on the material passing the 3-inch (75-mm) sieve.
- ^B If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.
- ^C Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.
- ^D Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.
- ^E $Cu = D_{60}/D_{10}$ $Cc = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
- ^F If soil contains $\geq 15\%$ sand, add "with sand" to group name.
- ^G If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

- ^H If fines are organic, add "with organic fines" to group name.
- ^I If soil contains $\geq 15\%$ gravel, add "with gravel" to group name.
- ^J If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.
- ^K If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.
- ^L If soil contains $\geq 30\%$ plus No. 200 predominantly sand, add "sandy" to group name.
- ^M If soil contains $\geq 30\%$ plus No. 200, predominantly gravel, add "gravelly" to group name.
- ^N PI ≥ 4 and plots on or above "A" line.
- ^O PI < 4 or plots below "A" line.
- ^P PI plots on or above "A" line.
- ^Q PI plots below "A" line.



Rock Classification Notes

WEATHERING			
Term	Description		
Fresh	Mineral crystals appear bright; show no discoloration. Features show little or now staining on surfaces. Discoloration does not extend into intact rock.		
Slightly weathered	Rock generally fresh except along fractures. Some fractures stained and discoloration may extend <0.5 inches into rock.		
Moderately weathered	Significant portions of rock are dull and discolored. Rock may be significantly weaker than in fresh state near fractures. Soil zones of limited extent may occur along some fractures.		
Highly weathered	Rock dull and discolored throughout. Majority of rock mass is significantly weaker and has decomposed and/or disintegrated; isolated zones of stronger rock and/or soil may occur throughout.		
Completely weathered	All rock material is decomposed and/or disintegrated to soil. The rock mass or fabric is still evident and largely intact. Isolated zones of stronger rock may occur locally.		
STRENGTH OR HARDNESS			
Description	Field Identification		Uniaxial Compressive Strength, psi
Extremely strong	Can only be chipped with geological hammer. Rock rings on hammer blows. Cannot be scratched with a sharp pick. Hand specimens require several hard hammer blows to break.		>36,000
Very strong	Several blows of a geological hammer to fracture. Cannot be scratched with a 20d common steel nail. Can be scratched with a geologist's pick only with difficulty.		15,000-36,000
Strong	More than one blow of a geological hammer needed to fracture. Can be scratched with a 20d nail or geologist's pick. Gouges or grooves to ¼ inch deep can be excavated by a hard blow of a geologist's pick. Hand specimens can be detached by a moderate blow.		7,500-15,000
Medium strong	One blow of geological hammer needed to fracture. Can be distinctly scratched with 20d nail. Can be grooved or gouged 1/16 in. deep by firm pressure with a geologist's pick point. Can be fractured with single firm blow of geological hammer. Can be excavated in small chips (about 1-in. maximum size) by hard blows of the point of a geologist's pick;		3,500-7,500
Weak	Shallow indent by firm blow with geological hammer point. Can be gouged or grooved readily with geologist's pick point. Can be excavated in pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.		700-3,500
Very weak	Crumbles under firm blow with geological hammer point. Can be excavated readily with the point of a geologist's pick. Pieces 1-in. or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.		150-700
DISCONTINUITY DESCRIPTION			
Fracture Spacing (Joints, Faults, Other Fractures)		Bedding Spacing (May Include Foliation or Banding)	
Description	Spacing	Description	Spacing
Intensely fractured	< 2.5 inches	Laminated	< ½-inch
Highly fractured	2.5 – 8 inches	Very thin	½ – 2 inches
Moderately fractured	8 inches to 2 feet	Thin	2 inches – 1 foot
Slightly fractured	2 to 6.5 feet	Medium	1 – 3 feet
Very slightly fractured	> 6.5 feet	Thick	3 – 10 feet
		Massive	> 10 feet
ROCK QUALITY DESIGNATION (RQD) ¹			
Description	RQD Value (%)		
Very Poor	0 - 25		
Poor	25 – 50		
Fair	50 – 75		
Good	75 – 90		
Excellent	90 - 100		

1. The combined length of all sound and intact core segments equal to or greater than 4 inches in length, expressed as a percentage of the total core run length.